Communications Engineer

Print Post Approved PP255003/00317

OCTOBER 1994

QPSX deal gives Jtec an ATM foothold

by Richard Chirgwin

Jtec has bought into the emerging market for asynchronous transfer mode (ATM) technology, purchasing part of Western Australian company QPSX.

QPSX is best known for its leading role in developing metropolitan data networking technology (it holds the world patents for the distributed queued packet bus – DQDB – which forms the IEEE 802.6 international standard), but has in recent years been working on ATM technologies.

Its work in ATM has resulted in chipsets, hardware and software aimed at the commercial, rather than the carrier, market.

This technology has now been purchased by Jtec, which will occupy one floor of QPSX's Perth offices. The Western Australian company will concentrate on further developing and marketing its DQDB technology to telecommunications carriers.

Jtec's marketing manager Keith Murray explained that the company had already been looking at ATM, when it had the opportunity to buy into the market via QPSX.

QPSX's ATM work, he said, represented a market which was outside the company's traditional focus on carrier business, and this led to a strategy divergence between the company and its owner, Telecom, ultimately leading to the deal between Jtec and QPSX.

ATM, which switches data cells between locations at high speed, has been the subject of much publicity in the networking market, but so far, its penetration beyond LAN backbones has been limited.

"Switching is not the issue in ATM – the real issue is signalling," Mr Murray said.

"If ATM is going to carry diverse types of traffic – voice, data, video – the lack of signalling standards will have to be addressed."

Mr Murray said Jtec's experience in ISDN would fit well with QPSX's work in switching, to enable a product that would answer the market's needs.

Jtec's ultimate aim is to create a scalable communications architecture that allows customers to start with ISDN basic rate equipment costing less than $2000 and expand up to broadband ISDN and ATM systems, all within a single, compatible product set.

Included in the acquisition is the right to the ATM chipset, known as Q8, developed by QPSX, along with two hardware products based on that chipset, the Q7000 and Q6000 systems.

Workgroup Ethernet switch offers low cost per port

SMC's TigerSwitch XE is a workgroup Ethernet switch that combines wire speed LAN per port performance and SNMP-based monitoring and filtering at a low price per port.

The TigerSwitch offers 24 independent 10Base-T ports with full 10M bps bandwidth for an aggregate total bandwidth of 240M bps.

Based on a dual Risc, store and forward architecture, The TigerSwitch offers high performance with a low latency of under 25µs (plus packet shift), an aggregate forwarding rate of 178,560 frames per second, and an aggregate filtering rate of 357,120 frames per second

Management features include user programmable filters, what if traffic analysis, an SNMP agent that supports MIB II, 802.1d Spanning Tree protocol, 802.3, PPP and SMC Enterprise MIBs.

As well, the TigerSwitch XE is manageable by SMC's Windows-based EliteView, EliteView for HP OpenView, IBM NetView/6000 and Sun Microsystems' SunNet Manager.

SMC, Level 67, MLC Centre, 19 Martin Place, Sydney 2000. Telephone (02) 238 2206, fax (02) 238 2220.

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IBM, CableData manage Australis net

by Grahame Lynch

Australis Media has awarded what its corporate affairs head Jim Hoggett describes as its most important contract – for its subscriber management system.

Under the agreement, IBM Australia will be prime contractor for the installation and management of the system for the next three years. The system will provide Australis with marketing and customer service functionality and billing capacity.

Australis' customer service personnel will use CableData's Intelcable software supported by IBM, running on IBM's Risc System/6000 hardware and using Oracle's database management system. Data processing will be done at IBM's Australian computing centre.

The RS/6000 system will be configured with dual model R20 processors and mirrored disk subsystems to form a high availability, clustered multiprocessor environment. There will also be an alternate RS/6000 model 59H system, constantly updated with live transaction data from the R20 system to ensure fast fail-over from the R20 system if needed.

The dual R20 system will be housed in the IBM computing centre, connected to Australis staff over a dual-path routed WAN.

The system will be tested in October, going live in December.

Mr Hoggett said six IT related companies were considered for the contract, but declined to name a value for the business.

He said overseas experience shows that the average Pay TV subscriber will make five calls to their service provider per year.

"When people pay for TV, they'll want to do something about poor picture quality or their problems with the remote control. The subscriber management system is the link between our marketers, installers and the management information people who tell us the story of what's happening," he said.

Australis will also begin appointing contractors soon to install antennae and set-top units in homes. "We don't want people to do it themselves, because we've got to stay on side with the councils. Our contractors will know how to install dishes to comply with local council laws."

Mr Hoggett said Australis is benefiting from experience gained from rollout of its narrowcast ethnic language services to fine tune its MDS transmission facilities in time for an expected December launch of broadcast services.

Managing director Neil Gamble said Australis' Galaxy service will supply 14 or 15 channels via satellite and cable, and 19 via MDS. He says the implementation of the MPEG-II digital compression standard will make 100 channels a possibility within 12 months.

Now for the hard part: Mr Hoggett sees the actual selling of pay-TV to customers as the "really hard bit" for the company.

"We've got satellite capacity guaranteed for three years, and during that time we'll form relationships with others by using feeds.

"We've locked up the microwave bands for a long time in the cities, and we'll have access to whatever cable is available."

Graeme Lynch is editor of the newsletters Communications Day and Communications Business.

Strong growth in telecomms

A report released by Paul Budde Communication shows strong growth in the Australian telecommunications market.

Telecommunications services apart from telephoney now exceeds $3 billion, with the total over the $17 billion mark. The total growth of 9% is well above the international average, the report states.

The report, *1994/1995 Telecommunications Strategies*, shows more than 300% growth in intelligent network services from 1992 to 1994. Facilities management, including resale, grew by 107% for the same period.

Growth in the telecommunications market is also feeding through to the manufacturing sector, with the telecommunications equipment market growing by 13% (to over $3 billion) and some Australian manufacturers claiming growth of as much as 30%.

The fastest growing segment is in facilities management and outsourcing, with growth double that of international markets, the report states.

This growth is expected to further accelerate once Austel's DMF (decision making framework) is finalised and better tariffs become available to resale service providers.

Over the 1992 to 1994 period, the report also shows spectacular growth for Optus, from less than $250 million to more than $1 billion.

1994/1995 Telecommunications Strategies is available for $375 from Paul Budde Communications, (049) 988 144.

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Alcatel extends GSM coverage

Alcatel engineers develop extended cell technology at the company's GSM R&D laboratory in Alexandria, NSW.

Alcatel research engineers, working closely with Telecom Australia, have successfully developed and trialled what is believed to be the world's first GSM mobile services using extended cell digital technology.

This development allows for an existing base station to extend its radio coverage to twice its current maximum radius, resulting in reduced network infrastructure costs and faster digital rollout. The technology is currently being trialled by Telecom in Queensland.

Peter Radley, president of Alcatel Mobile Communication, sees the service as "significantly reducing the cost of providing digital coverage in some areas and allowing for a much quicker expansion of coverage than was previously possible".

In most countries, the first phase of network deployment is focused on coverage of capital and major cities; the next phase of expansion then moves into rural areas, with the establishment of mobile communications facilities along major highways connecting capital cities, large towns and prominent tourist regions.

International GSM standards have set a distance limit of 35km between the base station and the customer's mobile phone; at distances greater than 35km from the base station, calls cannot be established. So to provide continuous coverage, base stations are required at least every 70km.

Alcatel says the radius limit of 35km presents a problem in Australia, as it is a large country and sparsely populated. To provide the level of coverage now expected by subscribers in regional and rural areas, massive capital expenditure is required to install the current range of digital cellular systems.

This was the challenge facing Alcatel and Telecom and by February this year, engineers from both organisations had developed a solution to this coverage problem.

"Radio base stations supplied by Alcatel can now be reconfigured so that they each provide two radii of coverage, one from 0 to 35 km and a second from 35 to 70km," explained Peter Radley.

"In effect, the radius of the cell has been extended to double its previous size, meaning that base stations need now only be installed every 140 km.

"In addition, the Alcatel equipment compensates for the radio signal delays associated with mobile phones operating between 35 and 70 km from the base station," Mr Radley added.

WA survey identified telecomms opportunities

A survey conducted for the WA state government has identified a wide range of business opportunities for its telecommunications facilities management contract, to be let later this year.

Conducted by the Telecommunications Management Project Group, the survey, of 128 government agencies, found user support to be the main concern of the government's telecommunications users.

The survey was conducted as part of the government's plan to hand telecommunications management for the WA public sector over to a third party manager.

It asked respondents to express their priorities, and level of current and expected future interest in a range of services. These included standard and mobile telephone and radio services, local and wide area data networking, messaging/paging, electronic mail, videoconferencing, cabling, billing and training.

Billing topped the list of current concerns in all areas, however fell to last in their future concerns. Most users said they want their bills to be rationalised and simplified, to help verification and payment.

Other support services requested by users include help desks, audit and asset management, building cabling and consultancy, phone systems maintenance and services, and computer communications.

The WA government says results were remarkably similar in both urban and country areas.

Value added and management services also showed up well, along with significant interest in emerging technologies such as videoconferencing and data-capable radio services.

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GREAT BRITAIN: Reed Business Publishing Ltd. The Quadrant, Sutton, Surrey, SM2 5AS.
JAPAN: Trade Media Japan Inc, 5-24 Sanbancho, Chiyoda-Ku. Tokyo 102.
GERMANY: Auslandsuerbung Stelmaszyk, Lindenstrasse 82. Tamm Bei Ludwigsburg 7146.
USA (WEST COAST): Larry Arthur, Reed Business Publishing. 3700 Campus Drive, Suite 203, Newport Beach, California 92660

Printed by Superfine Printing Co, Pty Ltd

Communications Engineer is distributed to individuals involved in selling, installing,servicing or operating data communications systems. Subscription rates are: Australia (surface mail) $55. Overseas $100.

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Oracle plans $150M support centre for Melbourne

In what it describes as a recognition of Victoria's technical and multicultural strengths, Oracle has chosen Melbourne to host its fourth international Support Supercentre.

The $150 million investment, announced by the Victorian minister for industry and development Phil Gude in September, will provide 24 hour support to Oracle customers throughout the 93 countries where the company operates.

Although the location of the Asia Pacific Support Supercentre has not yet been finalised, it is planned to employ about 310 technically skilled, multi-lingual people when fully operational in three years' time, according to Mr Gude.

Melbourne was selected, he said, for three main reasons. The first is that Oracle already has 50 people with such skills on staff in its local office here, with an ongoing supply from the surrounding universities, and these factors were further complemented by government incentives such as payroll tax, land tax and infrastructure support.

Mr Gude denied that the Victorian government offered any but the normal line of incentives to entice Oracle to establish its operation here.

"It is a fantastic development by the world's leading database software company," he said, "as it will enable graduates of Victorian universities to chase employment opportunities in this highly skilled and technical industry."

The Asia Pacific Support Supercentre will work in concert with similar operations in Redwood Shores, California; Bracknell in the UK, and a new centre to be established in Orlando, Florida.

The Asia Pacific region, covering 27 countries, is considered to be Oracle's fastest growing region.

Krone forms support division

Krone Australia has formed an independent operating division, called the Technical Services Support Group.

The company says this group will work with customers on implementing new cabling systems, maintaining existing systems, and helping them avoid cabling pitfalls.

Services currently offered by the Krone TSSG include cable testing and certification, network design, consultancy, project management, and training courses.

Next year, the company plans to offer ongoing customer network management services.

Krone TSSG specialists will work with all aspects of customer installations, from initial design to final certification.

TSSG manager Allan Towart says the group was formed to help customers with the issues relating to both new and existing installations.

"Cabling standards are constantly changing, especially with regard to 100MHz, or Category 5," he said. "TSSG was formed to provide the assistance organisations need to take advantage of this new technology, and supply the certifications and guarantees they need to protect their cabling investment."

According to Krone's marketing manager Luke Mitchell, although customers are implementing Category 5 cabling on performance and longevity grounds, they may not be aware of the latest standards developments, such as recent modifications to end-to-end link specifications.

TSSG currently has qualified systems specialists in Sydney, with Melbourne and Canberra facilities planned in the next six months.

Racal products to move upstream with MPA

Following the announcement in August that it had signed to distribute Wellfleet, MPA's "upstream systems integration" model has attracted another new vendor to its stable, with Racal's LAN and WAN products to be supplied and supported by MPA.

Racal is hoping to revitalise its Australian sales, which the company describes as lacklustre.

Racal Australia's director and general manager Phil Taylor hopes that MPA's distribution model, unveiled in August by managing director Phil Ackman, would take Racal back to strong sales growth.

"A couple of years ago Australia was our biggest growth area for network interface cards worldwide," Mr Taylor said.

He said the MPA distribution model "allows resellers to add more value" – an important aspect of attracting resellers to stock Racal products, he said.

Mr Taylor described MPA as well positioned to distribute the entire range of Racal NIC cards, while the ISDN products will complement WAN and LAN products already carried by MPA.

Phil Ackman, in unveiling his upstream systems integration model in August, said he wants to add a third alternative to the choice now faced by customers: whether to purchase from time-and-place distributors or value-added distributors.

Neither, he believes, encourage resellers to add significant value to networking solutions.

The upstream model advocated by Mr Ackman is designed to make distributors less visible to end users; instead, he says MPA will select resellers based on their capacity to add value to products, then work at increasing the value a reseller is able to add.

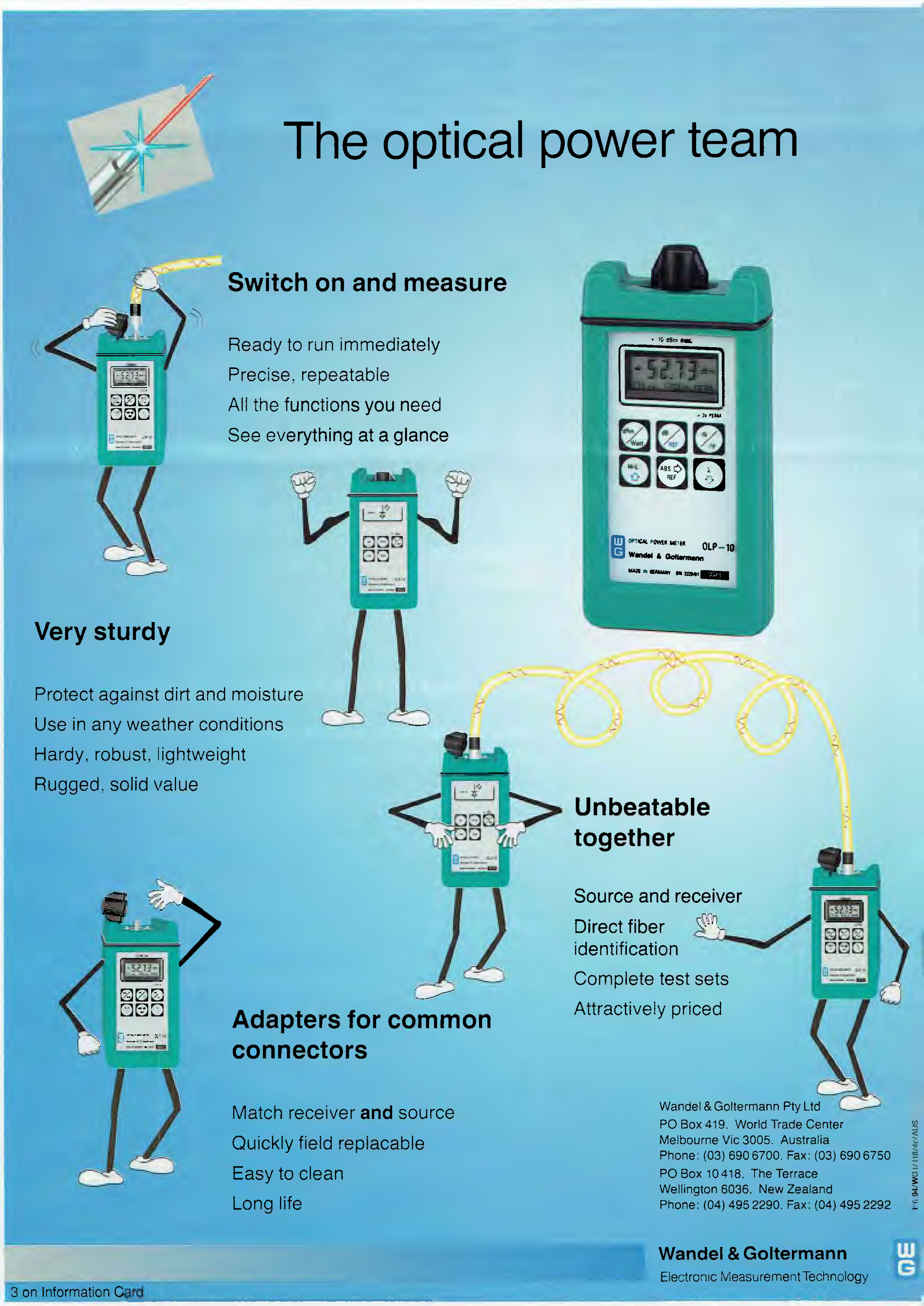
Olivetti, Stallion in OEM agreement

Olivetti in Italy has signed an OEM agreement with Stallion Technologies to integrate the Stallion multiuser EasyConnection 8/64 connectivity subsystem into Olivetti's forthcoming SNX server range, which will be available to Olivetti subsidiaries worldwide.

Welcoming the agreement, managing director of Olivetti Australia, Roberto Mazzi, said "Olivetti is delighted to help an innovative Australian company to expose its products to the world market."

With EasyConnection, Olivetti says the SNX servers will offer advanced features, such as 32 bit EISA throughput, modular scalability, transil-based surge suppression and EEC approved emission levels.

Stallion recently announced the EasyConnection 8/64, a modular, expandable family of multiport communication adapters with support for up to 512 users per system.



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Medium firms to spend $290M on networking

A BIS Sharpnel study reports a dramatic growth in networking and network products in Australia over the next three years, with the medium sized organisations contributing the most to this growth.

Local area networking in Australia 1994 forecasts a 47 per cent growth in LANs in the medium sized organisations, with the proportion of organisations using LANs to increase, along with the number of LANs per organisation.

BIS Sharpnel marketing director, David Amdal, said these businesses plan to spend over $290 million on their networking over the next 12 months, offering "significant opportunities to vendors willing to address their specific needs".

The study notes that the increasing independence of information and resources in business has raised the strategic importance of networking.

In keeping with this trend an estimated 81 per cent of organisations currently have LANs and 33 per cent have peer to peer networks, of which 93 per cent of the companies are planning additional installations of either networks within the next three years.

Mr Amdal said the growth is mainly because of investment confidence due to economic recovery, restructuring of business and increased focus on competitive advantages of IT.

"Other factors contributing to the growth of networking are the relative maturity of the technology, the fact that it is used by most IT vendors as a platform for new technical developments, the increased need for peer to peer communication, and the demise of the traditional mainframe," he said.

In this market sector, the average annual IT budget is $600,000. The number of LANs is expected to increase from 24,300 to 35,800 by 1997 at an annual growth of 15 per cent.

Major concern in the market sector is said to be the reliability of network systems, with network security, networking costs and varying network standards being the main problems affecting network management.

Mr Amdal said about 28% of medium organisations intend to outsource network management functions because of technical complexity and lack of internal skill resources.

The key factors influencing the selection and purchase decision are compatibility with existing systems, service support, features and price.

Medium size organisations are defined as those having a turnover of over $10 million and with 50 to 150 employees.

These companies exclude the top 2000 organisations and have networks with 70 workstations.

Ericsson extends lead in mobile network

Telecom has confirmed Ericsson's leading position in Australia's mobile infrastructure, announcing new contracts worth $126 million.

This brings orders to Ericsson this year to around $200 million for the mobile network, with the company expecting that more – as much as a further $100 million worth – will follow. This makes mobile equipment the core of the company's activities in Australia.

Both AMPS and GSM equipment is included in this contract. With the analogue network refusing to taper off in the market, Telecom will be ordering equipment for 80 new transmitter sites, supporting an extra 7000 voice channels.

Kevin Phillips, national network manager for Telecom Mobile Communications Services, said that the analogue system still continues to get new users at the rate of 4.9% per month. To support its expansion of the GSM digital network, Ericsson will supply equipment for 260 new sites to support 6500 new voice channels.

The growing importance of the Australian market to Ericsson is reflected in the company's export figures: next year, Ericsson predicts it will export 12,000 AMPS transceivers, compared to 1500 transceivers this year.

Expanded manufacturing and Ericsson Australia's status as a regional logistics centre, providing support to the Asia Pacific, has led to the employment of 200 new staff this year.

While GSM's user base of 10,000 in Australia is tiny compared to the AMPS system, Mr Phillips said he believes GSM is now entering a period of stronger expansion.

Telecom's base station investment is growing rapidly, and Mr Phillips said he expects digital services "will match the coverage of the AMPS system by June 1995".

Siemens to source Telecom's SDH products

Telecom's Tom Marulli inspects Siemens' SDH equipment that is to run Telecom's national optical fibre network.

Siemens recently signed a product sourcing agreement with Telecom Australia to nationally supply synchronous digital hierarchy products worth $500 million, which the company says formalises the strategic alliance between the two organisations.

The agreement, part of a selection process over the past three years, details the outline given in a heads of agreement document signed in November.

In addition, Siemens has announced that it is expanding its electronics manufacturing at Bayswater in Victoria and has appointed the head of its new telecommunications software development centre.

"Siemens is pleased to have developed this strategic alliance with Telecom," said Dr Ockert van Zyl, Siemens' general manager, telecommunications and manufacturing.

"What this detailed contract means is that Siemens is recognised for its commitment to Australia as a design and engineering base for its regional telecommunications operations," he said.

Under the contract, Siemens is designing and supplying all the telecommunications transport equipment for the SDH network and training Telecom in its operation and maintenance.

"The new SDH system enables Telecom to build on its leading position in the Australian market at a time when telecommunications is becoming one of the Australia's leading industries," said Dr van Zyl.

"It is also a springboard for the export of Australian designed and engineered telecommunications products and services into the countries of southern and northern Asia and the Pacific."

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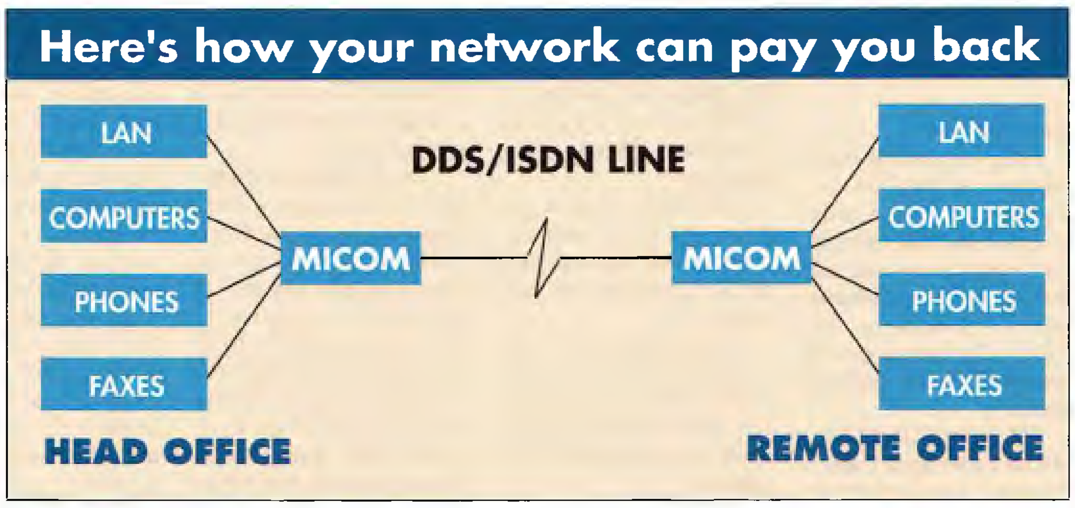

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An Apex for the low end

General DataComm has announced a low end member of its Apex family of ATM switches.

The Apex-MAC provides ATM capabilities to support multimedia applications in small workgroup environments, such as videoconferencing, distance learning and medical imaging.

Apex-MAC functions as a switching concentrator, combining LAN, voice and video traffic onto an ATM backbone. It is suitable for LAN interconnection, with circuit emulation to support circuit switched data, voice and video. Both Frame Relay and ATM switching are supported, and the switch can transport SMDS, X.25, HDLC and SNA/SDLC traffic.

An integral NTSC/PAL compression and adaption capability is planned in the near future. According to GDC, the wide range of adaption interface allows customers to create a common backbone network to support all types of user information.

Fully scalable, the Apex-MAC can be configured to provide the larger capacity of GDC's high end Apex-NPX or Apex-DV2 switches.

Apex-MAC's robust traffic management architecture is designed to allow each ATM cell to be switched and prioritised according to the application it supports. Under this architecture, low delay voice and video traffic is prioritised and balanced with bursty LAN applications.

GDC's distributed buffering scheme and traffic policing are designed to protect against overload, and improve transmission reliability and integrity.

General DataComm, (02) 956 5099.

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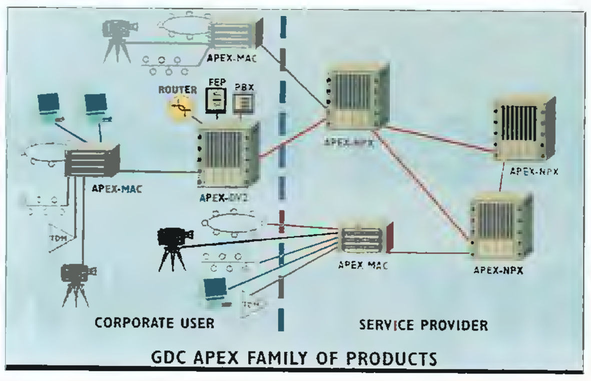

GDC APEX FAMILY OF PRODUCTS

Token Ring NIC for PCI

Olicom has released a Token Ring adapter for the PCI (peripheral component interface) bus.

The adapter offers a combination of high performance and simple installation.

Peak data transfer rates from the host to the card can be as high as 133Mb/s.

With a full 32 bit PCI bus master interface, the adapter offers high frame rates and low latency.

It operates on 4M bps and 16M bps Token Ring networks, with autosensing of both UTP and STP connections and an optional flash program load.

Based on TI's 380C25 controller and an ASIC designed by Olicom, the highly integrated adapter also offers high reliability and low power consumption.

Olicom's PowerMACH drivers help maximise performance and manageability.

Desktop management capabilities integrated onto the adapter give it the ability to work with both SNMP and DMI (desktop management interface) management systems.

An SNMP desktop agent on the adapter provides information about the workstation in which the drivers are installed, and the traffic flowing between the workstation and the network.

The DMI interface provides management functionality to the service layer in modern network operating systems.

Olicom users can also retrieve this information using the company's Olicom Adapter Info for Windows (AIW) software, a utility which presents DMI data as easily understood configuration and performance information.

Force Technology, (02) 971 1000.

116 on Information Card

SMC supporting new desktops with PCI, Plug-and-Play

SMC is moving aggressively to take advantage of developments in the PC market, announcing Ethernet adapters which support the PCI bus specification and Microsoft's Plug-and-Play program.

The company's EtherPower is a 32 bit bus mastering adapter. By transferring data more quickly between the host PC and the card, it both improves its own performance while minimising use of the host's CPU resources.

SMC says its bus master burst mode transfers data at up to 132M bps, and the card also support full duplex Ethernet.

SMC is also shipping a Plug-and-Play compatible Ethernet adapter which it says also offers easy installation in non Plug-and-Play systems.

The EtherEZ is a 16 bit adapter for ISA PCs. Plug-and-Play allows a PC's BIOS, Microsoft's upcoming Chicago, or Plug-and-Play utility software to enable PC devices such as the LAN adapter for automatic configuration without user involvement.

Microsoft's Carl Stork emphasised the importance of support for Plug-and-Play by companies such as SMC, saying: "This type of third-party support and aggressive development by major vendors will make Plug-and-Play a success, and be of great benefit to end users".

SMC says it has integrated Plug-and-Play logic into its own silicon, to minimise the cost of implementation while increasing reliability.

Automatic driver installation, diagnostics and SNMP agent installation provide ease of use features beyond Plug-and-Play environments, according to SMC.

Fully backwards compatible with SMC's existing base of EtherCards, EtherEZ is DMI compliant, supports all common desktop operating systems, and is available for 10Base-T, thin coaxial, or combinations of cabling media.

SMC, (02) 238 2206.

114 on Information Card

Newport now supports SRB

Newport Systems' LAN2LAN/MPR now supports source route bridging (SRB) for Token Ring networks.

Support for SRB and Token Ring adapters allow LAN2LAN/MPR to bridge NetBIOS packets between remote Token Ring networks, a solution which offers greater efficiency than encapsulating NetBIOS traffic in IP or IPX packets.

As well, by supporting both SRB and IP/IPX routing means the router can be used by organisations using both LANs and mainframe applications.

"Source route bridging is an important protocol in mixed LAN/SNA environments," said Scott Frew, managing director of LAN Systems.

Token Ring users also gain access to all the existing features of the Newport routers, including data compression at up to E1 speeds, and support for protocols such as PPP, X.25, Frame Relay and HDLC.

According to Newport, data compression is particularly useful where network traffic includes large, repetitive formatted screens being transmitted by the host.

Both 16M bps and 4M bps Token Ring are supported by LAN2LAN/MPR, allowing the router to be used to connect networks running at the two standards.

LAN2LAN/MPR supports up to two Token Ring adapters and six WAN adapters (at two or four ports per WAN adapter).

LAN Systems, (02) 901 3655.

115 on Information Card

Managing Madge under Windows

Madge has announced version 2.0 of its TrueView Workstation Manager.

This network management tool gives administrators quick diagnosis and reconfiguration of networked PCs.

It manages all of the company's Smart Ringnodes, Straight Blue adapters, and other Token Ring cards, including IBM 16/4 adapters.

Workstation management modules for OS/2 and Windows NT are due early in 1995.

TrueView Workstation Manager consists of a management platform and smart agents.

The SNMP-based platform works under a Windows management environment, and access the smart agents loaded on each client workstation.

Using Novell's DOS Protected Mode Services memory manager utility (which ships with each TrueView Workstation Management), the smart agent needs only 4.5Kb of DOS memory while running over IPX.

From the central console, network managers can track, maintain and troubleshoot LAN-attached PCs. Remote file management allows the administrator to perform on-going maintenance without disrupting users, including copying, examining and editing files at the workstation.

Password protection loaded on the managed PC protects the agent against unauthorised access to workstation information and files stored on local drives.,

Madge Oceania, 1800 653 816.

117 on Information Card

Crosstalk 2.2 offers point and click Internet

DCA has announced version 2.2 of its Crosstalk for Windows product, which includes an interface that gives users point and click access to Internet services.

Its Internet Helper configures Crosstalk for connection to an Internet service provider, and provides access to applications such as e-mail, ftp, and searching for information. The Internet Helper requires that the user has access to a Unix host with an Internet connection, such as a shell account with the service provider.

A built-in login script and session profile are included with the Internet Helper, along with QuickPads, which give users icons for Internet functions such as mail, news, telnet or ftp, and navigation services.

Other Crosstalk features remain. Two versions are available, with or without integrated Crossfax for facsimile functions.

DCA, (02) 451 8255.

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27 on Information Card

MT expands client/server solutions

Memorex Telex has expanded its client/server portfolio, with a variety of new releases, including the 8650S Open Systems Host enterprise server; the network-ready Client Server terminal; and 486 and Pentium based workstations under the Celerria brand.

The 8650S Open Systems Host is aimed at customers who need to optimise their distributed computing environment, the company says.

It features redundant power supplies, RAID technology, hot-spare CPUs, hot swappable disk drives, multiprocessing support and hardware management systems.

The LAN-attached Client/Server Terminal is based on a 486SX processor, giving it the ability to support both 3270/5250 applications and PC applications.

Its 122 key keyboard has dual host system and PC legends, while 64Mb of memory enables the terminal to run demanding applications.

The Celerria family of 486 and Pentium based PCs offers PCI bus performance, and is designed to offer high graphics performance, fast communications and better disk performance. PCI autoconfiguration, flash BIOS and an integrated motherboard design give the family easy installation, configuration and maintenance.

Memorex Telex, (02) 805 5805.

119 on Information Card

Optimising WANs with real time compression

Techway has released the Series 5000 LAN/WAN optimiser from Magnalink Telco systems.

This standalone data compression device increases the throughput of wide area nodes such as bridge/routers, FEPs or channel extenders. Depending on the type of information being carried on the link, Techway says compression of up to 4:1 on average can be attained.

The Series 5000 dynamically compresses its input data stream before transmission, ensuring that not only user data, but also management and routing messages, are all compressed.

Its pipelined, multiprocessor architecture minimises compression/decompression latency.

Techway says the data compression system can both cut data link costs, and improve user response times by reducing line congestion.

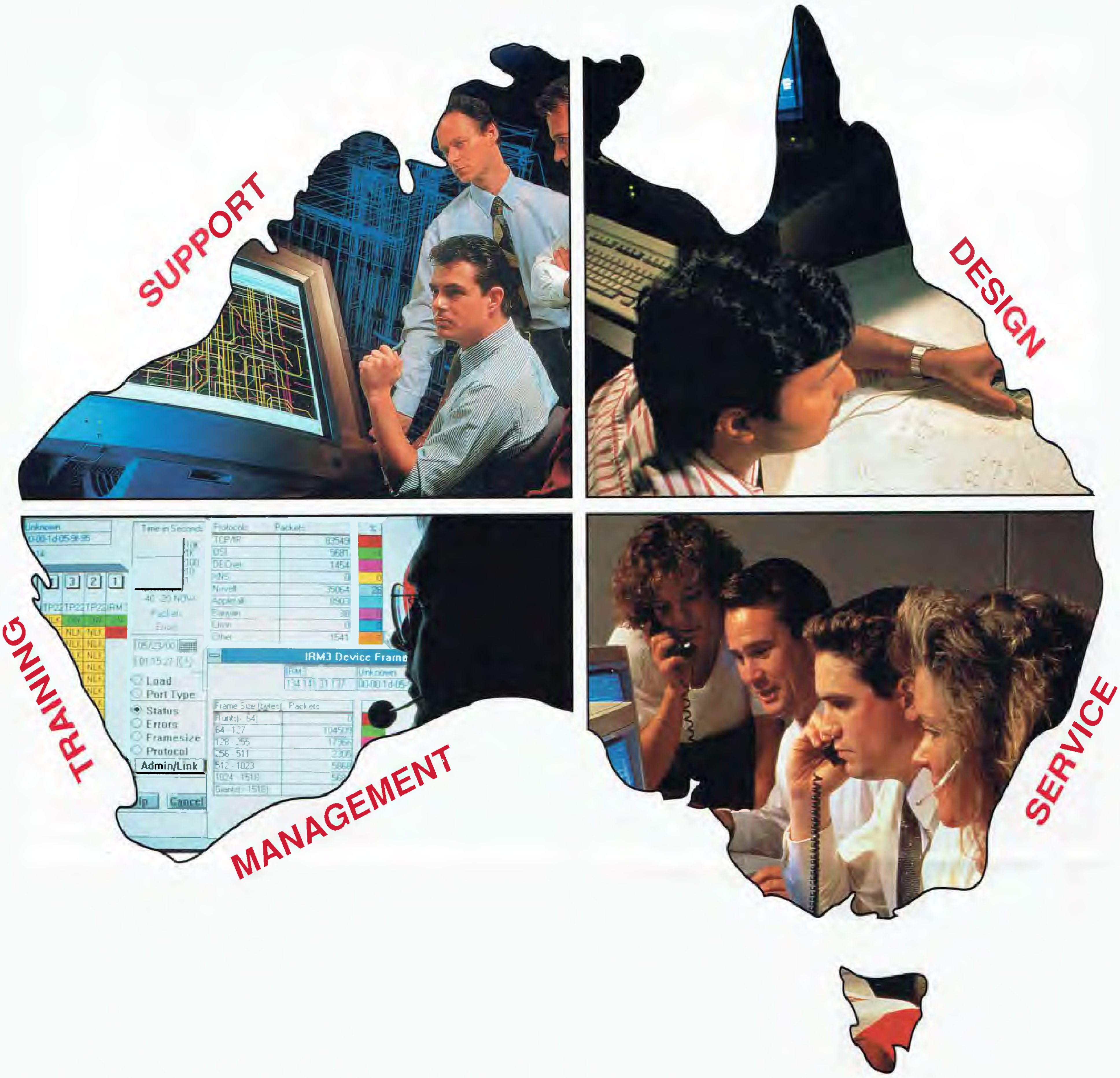
The optimiser provides one or two input ports, which are connected to the WAN port of the bridge, router, SNA controller or channel extender. One main and one backup output port are connected to a modem or mux for WAN transmission.

The backup port is typically used on a dial-up service for redundancy.

Interfaces supported are V.35, X.21, EIA-530 and RS232. Buffers in the optimiser eliminate the risk of packet loss, and the device supports WAN speeds as high as 2.048M bps.

Techway, (02) 975 2122.

120 on Information Card



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4. Comdex Spring, Atlanta, Georgia, **USA.** 23rd-26th May.
5. Computex Taipei '95, Taipei, **Taiwan.** 2nd-6th June.
6. PC Show, **Singapore.** 15th-18th June.
7. PC Expo, New York, **USA.** 28th-30th June.
8. Networld + Interop, Tokyo, **Japan.** 25th-29th July.
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10 on Information Card

Source: LCE094

3Com adds Transcend apps for workgroups and enterprises

3Com has announced Transcend WorkGroup Manager and Enterprise Manager. These two applications are designed to provide integrated management of all primary network devices to cut the cost and complexity of network management.

Optimised for Microsoft Windows, Transcend WorkGroup Manager targets the Ethernet LAN, while Enterprise Manager is aimed at managing multiple types of network devices and topologies across the backbone.

According to 3Com, WorkGroup Manager goes beyond the single device management features of low-end packages to give users a total view of workgroup activity. Three management views are provided: network, group and device. Hub port to adapter data correlation aids troubleshooting and analysis, while virtual grouping allows the administrator to manager user-defined groups independently of physical connections.

Other features include autodiscovery and mapping of SNMP devices; a graphical bitmapped view of the hub for port configuration; network control through scheduled access, a congestion indicator and alarm thresholding; and flexible access to management data through Telnet, Ping and an MIB browser.

WorkGroup Manager can be expanded later to full enterprise management capabilities.

Transcend Enterprise Manager is designed to administer all connectivity systems, including workgroup, backbone, WAN and remote office sites. It integrates users' device management into a single application, with features such as hub port to adapter correlation and virtual grouping.

Other features of Enterprise Manager include:

❑ port level, centralised configuration of NETBuilder II bridge/routers and NETBuilder remote office bridges and routers;
❑ easy navigation from enterprise views down to individual devices through a hierarchical map;
❑ graphical browsing of Token Ring segments to isolate problems, or establish benchmarks with Transcend's network analysis capabilities;
❑ creation, configuration and management of resilient-pair hub ports; and
❑ automatic notification of faults in the SuperStack redundant power system.

3Com, (02) 959 3020.
121 on Information Card

Four slot GigaHUB

Olivetti has released Fibronics' four slot GigaHUB, which supports six Ethernet segments, 20 Token Ring or FDDI LANs, and includes a slot for the company's ESM (extended system manager).

The XH152 GigaHUB uses cell-based ATM switching to connect LANs to ATM networks. Built around Fibronics' 6G bps GNA (generic network architecture) MatrixBUS, the hub is designed to offer flexible capacity and topology allocation at an economical price.

All six Ethernet buses (two synchronous, known as ESB, and four 10Base2, known as EB2) count as a single repeater for simple network design. The four 10Base2 buses service connections to Ethernet station cards such as an Ethernet switch planned for the future.

The EB2 buses also support third party interfaces such as terminal server and router cards.

All members of the GigaHUB range can be managed either under Fibronics' InterView SNMP manager, or generic MIB-II SNMP managers, using standard MIBs and private MIB extensions.

Olivetti Network Integration, (02) 368 1988.
122 on Information Card

Higher performance from EtherExpress

Intel has announced the EtherExpress PRO range of network adapters, designed to offer high performance for powerful desktop computers and a higher level of intelligence to control NetWare clients.

Aimed at Intel486 and Pentium workstations, the EtherExpress PRO adapter is designed to maximise use of the Ethernet bandwidth. Features include concurrent processing, 32 bit drivers, and 32Kb of buffer memory to provide 30% better performance over previous Intel adapters.

Concurrent processing allows the adapter to copy packets from the host while transmitting packets onto the network. Packets are also received from the network and copied to the host concurrently.

The adapter also allows each client to be monitored and controlled as an element of the enterprise network, providing a node-level component for end-to-end network management.

Built-in client management tools include enhanced FlashWorks software and DMI (desktop management interface) support. Autosensing one-step installation, including Novell VLM (virtual loadable module) installation, makes installation easier.

FlashWorks 1.6 includes a centralised driver update facility that automatically downloads new drivers and network utilities from the server to any network node.

Pre-boot virus protection allows EtherExpress PRO adapters equipped with flash to automatically scan the host PC, detecting and removing boot sector and file viruses.

The flash memory can also store a history of the last five hardware inventory and software configuration changes, helping administrators trace workstation problems.

Intel Australia, (02) 975 3300.
123 on Information Card

New firmware boosts Kalpana switches

Kalpana has announced a software/firmware release which allows multiple 10M bps or 20M bps connections between two EtherSwitch products, or between a NetWare server and an EtherSwitch.

This release consists of an NLM, Switch.NLM, to increase server throughput, and EtherChannel, to increase throughput between EtherSwitches.

The Switch.NLM NetWare loadable module allows network traffic between a server and a 15 port Kalpana EtherSwitch to be evenly distributed across multiple half or full duplex NICs.

The NLM supports any Ethernet NIC that operates under NetWare 3.11, 3.12 or 4.01, and load balances inbound and outbound traffic across all NICs installed in the server.

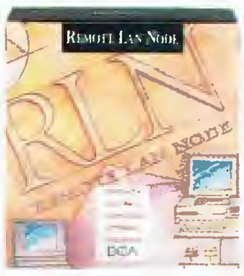
If an NIC fails, traffic is automatically rerouted to the remaining adapters. Notification of the failure is sent to the system console, which also provides traffic statistics for all the server's adapters.

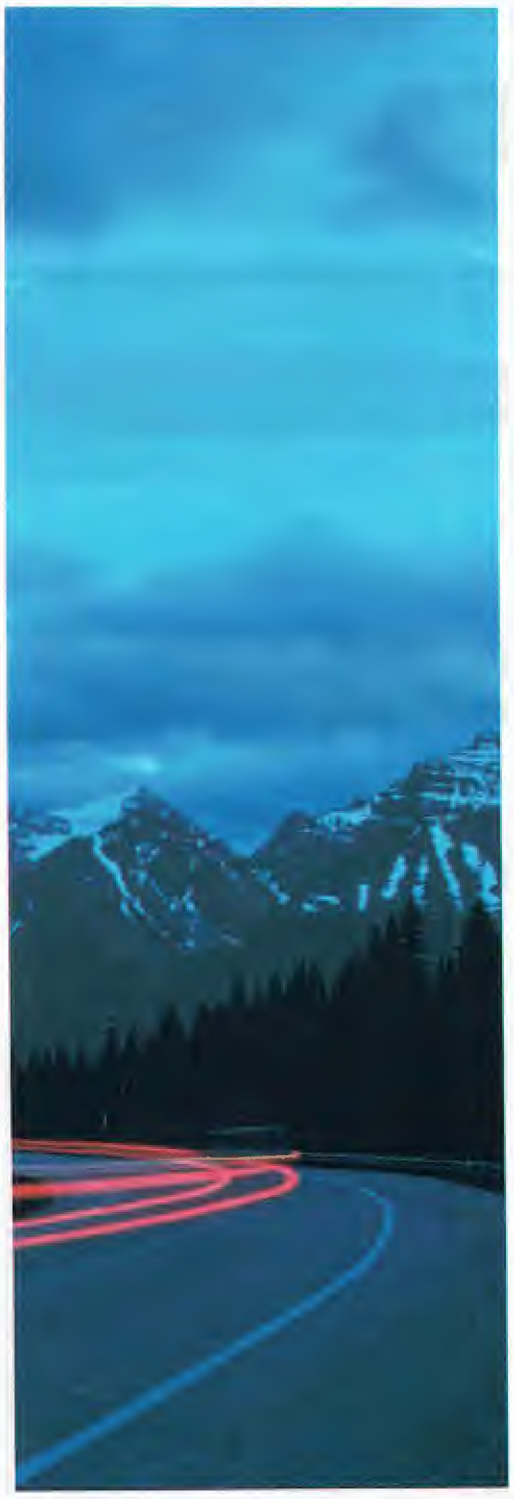
EtherChannel increases overall network throughput by providing multiple half or full duplex connections between two 15 port EtherSwitches.

Kalpana says each of these products supports aggregate switched throughput between nodes of up to 60M bps.

Aimed at collapsed backbone environments, EtherChannel supports 10Base-T, 10Base-2 and 10Base-FL media.

Anixter Australia, (02) 333 0800.
124 on Information Card





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10 on Information Card

WAN adapter

Eagle Technology is now shipping its NW2000 Novell compatible WAN adapter, which provides remote connectivity between Novell MPR 2.11 sites.

According to the company's general manager in Australia, David Thrum, the adapter targets smaller branch offices "that need connectivity to corporate environments for transaction processing, file transfer and electronic mail.

"The adapter provides a variety of WAN connections, including synchronous operation and telephone line usage," he said.

This half-length ISA serial data card conforms to Novell's WANIS specification, and offers two ports that can be configured as V.35 or RS232 interfaces.

The ports can be configured independently for various WAN services. The card now supports Frame Relay, with future protocols to include PPP and X.25.

On-board memory of 256Kb provides ample storage for transmitted and received data to allow the server to operate efficiently.

Artisoft Australia, (02) 880 2688.

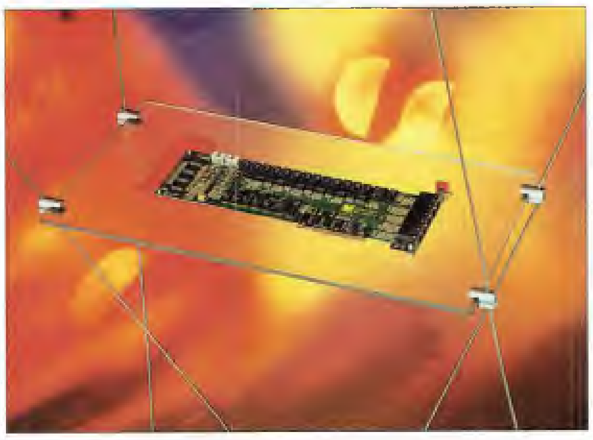
125 on Information Card

Token Ring hub on a MCA card

Smaller Token Ring sites can now integrate their hubs with their servers, with the release of Madge's Smart 16/4 hubcard.

The card is a fully functional Token Ring hub for Micro Channel based NetWare servers.

Madge says the card, aimed at branch offices, provides security, management and fault recovery features.



Up to ten Token Ring stations can be connected to the card, using either UTP or STP cable. Multiple Smart 16/4 cards can be daisy chained to form larger networks, supporting both 16M bps and 4M bps networks.

Automatic fault detection and isolation maximises network uptime. Madge says fault recovery is fully automatic, requiring no user intervention. When a fault is isolated, the card notifies the network administrator of the problem and its location.

The hubcard can be managed remotely using SNMP over either IP or IPX protocols. The card is also fully compatible with Novell's NMS 2.0 and with the Novell hub management interface (HMI).

Each card ships with NetWare hub services, licensed by Madge from Novell, so administrators can manage the card either locally or remotely using RCONSOLE.

Security features include the ability to specify which branch office stations can access the LAN, and set the times of day that stations have access to the network.

The Smart 16/4 MC hubcard can be installed in Micro Channel servers running any of the following NetWare services:

☐ NetWare 3.11 and above;
☐ NetWare MPR 2.x and WAN Links;
☐ MPR 2.1 and MPR 2.1 Plus;
☐ NetWare for SAA and NetWare SNA Links; and
☐ NetWare Remote LANalyser.

Madge Oceania, 1 800 653 816.

126 on Information Card

Chipcom's smaller switch

Chipcom has released a ten slot version of its ONcore switching system, aimed at horizontal workgroups and smaller collapse points.

The company has also announced a lower cost version of the 17 slot chassis, offering the same features as the original chassis without the Token Ring port switching backplane.

The company says the new models are designed to give customers more options and greater flexibility in network design.

The 17 slot Basic ONcore is designed for companies that don't need port switching on Token Ring or FDDI networks. It supports all ONcore system Ethernet switching modules, as well as Ethernet, Token Ring and FDDI concentrator modules.

The ten slot ONcore switch offers the full range of switching options: module, bank, port, packet and cell switching.

Both of the new releases support standard ONcore power supply and controller modules. They also both support the company's ONdemand NCS management platform, to manage modules down to the port level.

Built-in inventory management is also included, allowing the management station to interrogate all ONcore System elements (including hubs, modules and daughter cards) for information such as model number, serial number, hardware and software revision and power requirements.

Chipcom, (02) 451 2299.

127 on Information Card

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11 on Information Card

Balancing hypeware and hardware

by Richard Chirgwin

1994 could one day be seen as a turning point for Networld+Interop; the year in which the show changed from a proving ground for real-world products to another hype-filled trade show.

Yes, most vendors focussed on demonstrating available products. But as the vendors mature, and as their markets mature, the focus increasingly changes from the here-and-now to what the US press calls "hypeware" and "marketecture".

After all, the real deliverables – Ethernet, Token Ring, switching (to some degree), and interoperability between various flavours of network – have limited sex appeal. Rightly or wrongly, they're seen as having passed from the realms of rocket science to what salesmen call "no brainers".

How then does a vendor attract some of the 60,000+ visitors to its stand rather than the competition?

That's where the marketing department, and the hype, comes in. Unfortunately, most of the hype merchants ignore what users really want, which is mostly an incremental increase in performance at a modest price, rather than a great leap forward in performance at an excremental price!

Wanna see ATM working? We've got it! Wanna see Ethernet switching? We've got it! How about virtual reality? We've got that too – even though it's got nothing to do with your network. Interoperability? No sweat, everybody here's a partner, even the competition.

Somewhere, somehow, the poor visitor had to walk through 700+ stands and dodge the salesmen to get through to the technology – which, even in the most flashy of booths, was worth the search.

And, tucked away in the corners, away from the thousand-square-foot stands, the acres of perspex and the videowalls were some interesting startups, small one-product companies who don't have the luxury of saying "next year" when asked about delivery. There were some stunning technologies, and a couple of companies which must be unbackable favourites for takeovers.

I hope they don't all sell out, though. Somebody showing great technology, shipping now, at the right price could help keep the market honest, and maybe reclaim some of the ground lost to the marketing departments.

Surprisingly, the biggest hype this year wasn't devoted to hardware. It was, instead, shifted to – guess what! – The Internet.

Products for The Internet ranged from the somewhat shifty – companies selling modified public domain programs at $US100 a pop – to more important items, such as various flavours of "firewall" security.

Big blue back in a big way

Does this look like the same company that set US corporate history with record making losses last year?

The scope's big, anyway, with announcements stretching from Token Ring interface cards (cheaper at last) right up to mainframes (or large scale servers, to make them sound right for the network market).

And IBM seems to have decided that it should try leading in the networking business, instead of allowing the market's direction to be forced upon it by single-billion-dollar tadpoles in the network market!

The next stage will be to see how customers react.

Some of the announcements should be welcomed, like 4/16M bps Token Ring NICs shipping at $US295; or the lifetime warranty on all IBM adapter products.

Higher performance for fileservers and power workstations is provided by the company's first PCI adapter, the IBM Auto LANStreamer.

Its Ethernet offerings are also expanded, with the company's first 32 bit EISA adapter – although at $US295, IBM will have to work hard at selling the performance message if it's to win users in the extremely price-sensitive Ethernet adapter market.

Big blue also claims to have improved remote access to its LANs, with dial-up remote solutions announced at Networld+Interop.

That was part of a swag of announcements in its hub portfolio. Chipcom's 10 slot ONline is now shipping under the IBM badge as well; new Token Ring and Ethernet modules are also available; and the company previewed three new Ethernet modules which it will be putting into the 8260, covering 20 and 40 10Base-T ports and ten 10BaseFL ports.

Higher up in the IBM hub portfolio, the company announced three modules for its 8250 multiprotocol hub:

☐ 10BaseFL transceivers and modules, for long distance campus backbones;

☐ a six port Ethernet router; and

☐ FDDI twisted pair modules.

IBM also announced that it will be shipping switching in the near future, with Ethernet switching (the 8271 EtherStreamer), full duplex Token Ring switching (the 8272 LANStreamer), full duplex adapters; and later on, a full duplex version of its Etherstreamer switch.

The company's switching strategy is based on technology from Kalapana, fast becoming a standard for vendors entering the switching market.

Then there are announcements covering remote access (the 8235 remote access server enhanced), bandwidth management, and LAN management.

In fact, the Atlanta Networld+Interop sees IBM offering what it has, in the past, been criticised as lacking: a broad vision of the relationship between (still) the world's largest computer company and the networking market.

This is perhaps best seen not in its networking announcements, but in the announcement made by IBM's Large Scale Computing Division.

Here at last is an awareness of the relationship between the mainframe and the corporate network: among the six models of System/390 which were announced at Networld+Interop include versions aimed at enterprise LAN file serving and video serving.

For example, the LAN File Services/ESA programs for MVS or VM hosts makes System/390 disk space available to LAN users; allows users to share information without downloading or copying files; gives administrators a single interface to all System/390-connected LANs; and supports end users on DOS, OS/2, AIX and Unix systems.

While this big-end-of-town announcement affects a relatively small (but very lucrative) portion of the end user market, it does demonstrate a commitment to "making the System/390 a full participant in client/server computing", as one IBM staffer put it.

Wellfleet, SynOptics play it low key

Considering SynOptics' reputation as one of the most powerful marketing machines in the network business, its joint press and analysts' conference at Networld+Interop was a surprisingly low-key venture.

So gently have the two companies moved in promoting their merger that one analyst complained about the lack of hype, or at least "vision".

But that looks like an intentional policy. Wellfleet and SynOptics shares have not performed well since the merger was first proposed, and in the face of skepticism in the financial market – regardless of how the merger is viewed among customers and channel partners – the job facing the two companies is one of persuasion.

The question CEOs Andy Ludwick (SynOptics) and Paul Severino (Wellfleet) sought to answer is "why merge, and why now?"

Mr Ludwick said the reason most mergers between technology companies fail is that they wait too long into the life cycle of a technology.

Once both SynOptics and Wellfleet had finished formulating their approaches to switching and ATM, the time for a merger would be passed: too much money would have been invested by both companies in their own products for either company to tolerate a change, either from an engineering or a financial point of view.

"By doing it now, we get to start with a clean slate", Mr Ludwick said. He believes the time is ideal – both companies understand the issues behind switching technologies, but neither they nor the market have complete, mature products already shipping.

Mr Ludwick said the internetworking market is now in a transitional phase, from router-centric to switch-based backbones.

However, maintaining the line which SynOptics has promoted ever since the merger was announced, he said that routing functionality will be needed "as long as Layer 3 still exists" – in other words, for as long as dissimilar networks survive. Both LAN emulation and virtual LAN capabilities in ATM networks, for example, still need Layer 3 router capabilities somewhere in the network.

Hence the choice of Wellfleet as the merger partner. But with the shareholder vote approaching, the time for technology arguments is probably passed. The merger, and the credibility of two major forces in the network market, now depends on what the owners say.

Frankenburg's focus for Novell's future

Once, when its only business was network operating systems and its market position was unassailable, Novell could afford to wait for the market to come to it.

However, after a change of CEO and the acquisition of WordPerfect, Novell has spent much of this year redefining its position, both in terms of the future shape of the company and the future shape of the market.

According to new Novell head Bob Frankenburg, the result is a company that is focussed, both now and for the future, on a vision of connecting any computer, anywhere, to a Novell network.

That focus isn't without cost. After the soul searching, Novell has decided to quit the desktop operating systems market; neither Novell DOS nor Personal UnixWare will receive any further development (although existing users will still be supported), and Novell has withdrawn its support for the AppWare Foundation – a move unpopular among Foundation members.

A key to the rationalisation of Novell's activities is, as Mr Frankenburg put it, that "we will not compete with our partners".

Also ruled out by Mr Frankenburg are vertical application markets, databases (following the sale of Btrieve earlier this year), hardware, system integration, and information services.

Instead, where the need exists, he said Novell will work with its partners to cover non-core markets.

NetWare 4.x has so far been an unhappy experience for Novell, but Mr Frankenburg emphasised that the bugs users discovered in 4.0 have been eliminated from 4.02. The product has also been enhanced with better directory tools and a simpler installation procedure.

Sydney..............13th Oct. 1994
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Watch this space: some hot start-ups

One of the joys of visiting Networld+Interop is seeing companies which may one day give the whole industry a shake.

Start-ups don't have the luxury of an existing product range to generate cash, so if they're saying "buy our product" they'd better be able to deliver it.

And without a huge fund to finance thousand-square-foot stands, the start-up can only attract attention through the merit of its product.

But those that make an impression make it big: at last year's San Francisco show in late August, a company called Centrum showed off a new way of connecting remote users to NetWare networks. By the end of the year, the company was owned by 3Com, its products forming the basis of the new parent's SOHO strategy.

This year, the company I'd nominate as "most likely takeover target" is an outfit called Amber Wave Systems; another to watch in the next 12 months is called Optimal Technology.

Its AmberSwitch is just an Ethernet switch, but its pricing should cause a sensation.

Eight switched Ethernet ports – the industry's default for entry-level Ethernet switching – cost just $US2000; and the AmberSwitch can be populated with up to 32 ports while still keeping its price under $US6000.

Fully populated, the AmberSwitch ships at just $US175 per switched Ethernet port.

Amber Wave Systems was founded by engineers left on the shelf after Chipcom's acquisition of Artel. Since switching technology has matured very quickly, they focussed instead on designing a product that could be manufactured at low cost. The AmberSwitch uses strictly standard ICs – single chip Ethernet interfaces from AMD, with switching implemented on Xilinx programmable logic chips.

By shipping the switch at a price close to that of standard shared Ethernet hubs, Amber Wave hopes to offer a product that has greater penetration into its potential market than more expensive switches.

The philosophy here is that most users need only the incremental performance increase of switched Ethernet, rather than the flying jump of ATM or 100M bps technologies. However, by Q2 1995 the company says it will be delivering an add-in card to support 100Base-T Ethernet.

Within its low-cost architecture, Amber Wave has still managed to incorporate some smarts of its own. An address management scheme called SuperCAM takes advantage of the Spanning Tree protocol to provide redundancy at the workgroup level. Users can create primary and backup links between any two network devices, so an Ethernet segment can have automatic and complete system redundancy.

For example, two separate AmberSwitches may both be connected to a single server. Clients that need redundant connections can be connected to both switches, while clients that don't need redundancy are connected to one or the other of the switches.

The Spanning Tree implementation on the switch detects and disables the redundant links, so the backup link only operates when it is needed.

Optimal Technology didn't have a stand of its own, choosing instead to share a corner of the Network General stand.

That's fair enough, since its first product is based on the data gathering capabilities provided by Network General's Sniffer.

Optimal takes Sniffer data and uses it as the basis for capacity planning. That sounds simple, but Optimal is going somewhat further than most of the products I've seen so far.

For a start, its data is based on instantaneous, real-world information delivered by Sniffer; and this information is presented behind extremely powerful tools.

Users could, for example, check in real time the effect of a 5% traffic increase in one segment, across the whole network. The effects of server location can be checked, along with choices such as segmentation, router location, high speed technologies, remote network behaviour and so on.

First products won't be shipping until late in Q2 1995, but if it lives up to its promise, Optimal will be a name to watch. Later versions will port its product to use data gathered by systems other than the Sniffer.

A surprise from Proteon: Ethernet

While the Token Ring market has traditionally been protected against the margin wars of Ethernet, it's still relatively static compared to the almost ubiquitous Ethernet segment.

Proteon, long seen as a technology leader in Token Ring, has jumped into the Ethernet market with a range of hubs and network adapters designed to expand the company's appeal beyond its traditional Big Blue base.

President Don Capone said the Ethernet rollout reflects the growing importance of internetworking: "We're offering users one-stop shopping for Ethernet hubs and switching hubs at very competitive price tags," he said.

The ProNET/E family includes adapters, intelligent hubs and switched hubs, and works with the company's ProNET-4/16+ Token Ring family.

Ethernet adapters in the range will cover a variety of PC bus topologies, from PCMCIA through to EISA. NetWare, ODI, NDIS and packet drivers will be supported, while media support will cover thick and thin coax and UTP.

The cards are priced aggressively, starting at $US69. The adapters are complemented by five hubs in standalone Ethernet switch and 10Base-T intelligent hub versions under the ProNET/E Series/80 banner. All are free standing, with some stackable.

JWT HPC 375

TigerSwitch leads SMC announcements

SMC expanded its switching product line at Networld+Interop, announcing an Ethernet workgroup switch which ships at under $US400 per port.

The TigerSwitch XE uses a dual Risc store-and-forward architecture (to eliminate the propagation of bad packets around the network).

One processor is dedicated to management tasks, the other to switching tasks.

Each of the 24 ports is an independent Ethernet segment, and the switch supports more than 8000 MAC addresses, so it can support a flexible range of configurations, from single workstations through to multistation segments.

Latency is specified at less than 25µs (plus packet shift), aggregate forwarding rate at 178,560 frames/second, and aggregate filtering rate at 357,120 frames/second.

Virtual LAN capabilities contain broadcasts to user-defined segments, and the switch's SNMP agent supports MIB II, the Spanning Tree protocol, PPP and SMC's Enterprise MIBs.

Up to eight ports can be trunked together for connections requiring extra bandwidth, such as servers; and a version with Fast Ethernet ports is slated for the first half of 1995.

SMC says TigerSwitch XE is an important plank of its Fast Ethernet and ATM product plans, articulated in the company's "SMC Unity" strategy.

The company has announced a range of product rollout plans under SMC Unity, including:

☐ 10/100M bps 100Base-TX adapters (Q1 1995);
☐ a 10/100M bps 100 Base-T hub (Q2 1995);
☐ a 10/100M bps 100 Base-T workgroup switch (Q2 1995); and
☐ a multiport 100M bps Fast Ethernet I/O module for the ES/1 (Q2 1995).

SMC's ATM plans under the strategy include 155M bps adapters (Q2 1995), an ATM workgroup switch (second half of 1995) and an ATM feeder I/O module for the ES/1 (second half of 1995).

According to SMC, the basis for its strategy is that switches are a better solution than routers for premise backbones, and that the combination of switches and stackable hubs is more cost effective and scalable than the "superhubs" promoted by larger players in the hub market.

As well, the company doesn't expect ATM to become a mainstream solution for between two or three years.

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Cisco goes onto remote

In an aggressive rollout comprising 15 new product introductions, Cisco Systems has launched its attack on the remote access market.

The products will give satellite offices, telecommuters, and mobile users access to corporate networks.

The rollout includes new hardware platforms along with variations on the existing Cisco 2500 platform. They include the AccessPro PC card; the Cisco 1000 LAN Extenders; combined access router/wiring hubs based on the Cisco 2500; a family of user-to-LAN access servers also based on the 2500; and three new Cisco 2500 models, each upgraded from single to dual LAN connections.

Aggressive pricing is a key plank of the company's strategy. The Cisco 1000 LAN extenders will start at $US1595, the AccessPro PC card will ship at $US1995, the Cisco 2500 router/wiring hubs will start at $US3095, while the access servers and the new 2500 variants will start at $US2995.

AccessPro PC gives branch offices a single-box connection to enterprise networks from an ISA or EISA PC. It uses technology from the 2500 series router, and supports all of the LAN, WAN and switched service functions of the company's IOS (internetwork operating system), but does not use the host PC's CPU.

> *Aggressive pricing is a key plank of the company's strategy.*

The card includes one Ethernet or Token Ring port, a synchronous serial port operating at up to 4M bps, and an asynchronous serial port operating at up to 38.4K bps. ISDN BRI support is expected later this year.

An important feature of the card is that it is transparent to a PC software reboot, to maximise the reliability of routing applications.

Three IOS feature sets will be available for the AccessPro PC card.

The IP feature set includes the IP protocol, transparent and source route bridging, X.25, Frame Relay, HDLC, PPP, dial-on-demand routing, and the IGRP, RIP, OSPF, BGP and EGP routing protocols. For IBM environments, remote source route bridging, local acknowledgement, NetBIOS name caching, a proxy explorer, and class of service LU address prioritisation are included.

The Desktop feature set includes IOS IP features, along with IPX, AppleTalk and DECnet Phase IV support; while the Enterprise feature set covers all Cisco-supported protocols, WAN technologies, IBM features, and protocol translation software for X.25, Telnet and DEC LAT environments.

The two-port Cisco 1000 LAN Extenders are aimed at offices that generate limited traffic and need only a single WAN connection. Aimed at the border routing" market first defined by 3Com, the product offers low cost and simple configuration.

Its architecture is similar to other border router solutions, with routing intelligence concentrated at the central site, while the remote unit is essentially a bridge, deciding whether or not to forward a packet to central site.

Two models each offer one Ethernet port and one serial WAN port (V.35 or X.21).

The four-member Cisco Access Server family provides V.34 connection speeds for eight or 16 asynchronous communication ports.

Single Ethernet or single Token Ring LAN connections are available, and the servers support IP, IPX and AppleTalk, along with Telnet and other terminal server features.

The access servers offer three functions: dial-up routing for remote offices over standard phone lines; remote terminal to host connections; and a remote node service giving PCs, Macs, Unix clients and X terminals dial-up access to network services.

Dynamic port assignment allows any asynchronous port on the system to be used for any protocol or service, and three levels of password security are provided.

The three versions available are differentiated by the IP, Desktop and Enterprise IOS feature sets.

Remote offices are further supported by the integrated hub/router versions of the Cisco 2500, which are the result of the company's work with LanOptics.

Two models offer eight or 16 hub ports (as one logical Ethernet interface), integrated with a fully featured Cisco 2500.

Finally, three new models in the 2500 router family offer dual LAN ports (two Ethernet, two Token Ring or one of each), rather than the single LAN port provided on earlier models.

Cabletron shrinks segments

Cabletron's major announcement was the Ethernet MicroLAN Extension module for its MMAC-Plus hub.

The company says the three segment module supports its PLUS architecture, which uses Intel's i960 processor to achieve high performance, cost effective embedded applications including bridging, routing and SecureFast switching.

The Ethernet MicroLAN Extension module provides shared access media connections that reduce the number of users or servers per LAN segment, to increase the availability and reliability of the network.

Centralising network resources increases segment bandwidth, improves servicability, enhances fault tolerance and offers improved physical and network security, the company says.

The module allows the MMAC-Plus to be configured for up to 42 Ethernet segments in a fully loaded chassis. Each of the three separately repeated Ethernet segments on the module supports four RJ45 connections and one EPIM (Ethernet port interface module). The EPIM supports UTP, STP, coax, and single or multimode fibre media.

Initially, the module supports Cabletron's bridging and routing, including IP with RIP, IPX with SAP, and DECnet Levels 1 and 2. AppleTalk and OSPF are slated for the first quarter of 1995, along with SecurePath switching.

The company also announced a range of price cuts at Networld+Interop. An FDDI concentrator bundle announced at the show comes in at $US9995 (down from $US20,000 for the individual components), an Ethernet workgroup bundle cuts purchase prices from $US40,000 for individual components down to $US17,995.

Other price announcements included the BRIM-F6, down to $US1495, and price cuts across the FPIM range.

ATM the nice way

Another new face at Networld+Interop, Nice-Com, rolled out ATM products aimed at giving users an affordable entry to the technology that can be scaled up to very large networks.

The company's NiCELL range comprises an Ethernet/ATM workgroup switch (the NiCELL 200), and the NiCELL 1200 and 2000 ATM backbone switches.

NiCELL 200 has 12 Ethernet ports and one ATM port, and can operate either as a standalone workgroup device or as the concentrator switching Ethernet segments to an ATM backbone.

Either dedicated workstations or shared Ethernet segments are supported, and ATM LAN emulation capabilities allow users to create virtual LANs.

On the ATM side, the NiCELL 200 offers a choice of an OC-3 155M bps interface (for local connectivity) or a DS-3 ATM interface (suitable for WAN services).

As part of a complete ATM corporate network, the NiCELL 200 connects to the NiCELL 1200 or 2000 backbone switch, which differ in the number of chassis slots supported.

The NiCELL 2000 can support from one to 16 ATM ports.

Nice-Com is hoping that its pricing will attract attention away from the larger players; a realistic entry configuration (two NiCELL 200s each supporting 12 Ethernet ports, their ATM ports connected back-to-back) starts at $US16,800.

Networks which combine workgroup and backbone switches can scale up to support 192 Ethernet ports and 16 ATM ports (totalling $US222,000).

Ascom Timeplex adds access routers

Two models were added to Ascom Timeplex's internetworking family at Networld+Interop.

The Access Router Models 150 and 330 are positioned above and below the company's existing Access Router, giving the company a broader range for branch and remote office environments.

Both include the company's Express Routing capability, and so are able to consolidate LAN and legacy traffic on a single internetwork.

The Access Router 150 is a fully featured multiprotocol router designed for small to very small environments in banking, insurance, securities, retail and general sales office environments.

The Access Router 350 offers twice the port capacity of the existing Access Router, with up to eight LAN/WAN connections for larger branch and small regional office sites.

Both are available this month.

Both versions support TCP/IP, IPX, DECnet Phase IV, AppleTalk and OSI protocols. Routing protcols include EGP, OSPF, RIP for IP, IPX and XNS, remote IPX RIP, remote IPX SAP, DECnet IV Levels 1 and 2, AppleTalk II RTMP, ESIS and ISIS.

Transparent, source route and source route transparent bridging are also supported between local or remote FDDI, Ethernet and Token Ring LANs.

DLSw support offers reliable SNA and NetBIOS transport over TCP/IP, with LLC II local acknowledgement and NetBIOS name caching included.

Remote control and management features include remote software downloading, Flash EPROM support, upload/download of configuration parameter files, Telnet, and full SNMP SET support for all configurable parameters.

All members of the Access Router family can be managed under Ascom Timeplex's NMS, and all include support for IBM LAN Network Manager.

Cheaper routing from Retix

Retix led its Networld+Interop presence with the announcement of price cuts across its SWITCHStak 5000 product range, with some models falling by up to 35%.

The cuts bring the US entry price for the SWITCHStak 5000 down to $US3995 (eight port intelligent switch), with a fully loaded per-port price of less than $US500.

The company also expanded its remote access solutions with an entry into the ISDN market. The LINKXchange range provides SOHO users with an ISDN connection back to Retix multiprotocol routers in larger offices.

Single user and multiple Ethernet remote sites are supported, and LINKXchange offers features to cut transmission costs, such as 4:1 data compression and dial-on-demand capabilities.

The three LINKXchange models are: the LX 150 single user device, which requires an external NTU; the LX 160, which adds an internal NTU; and the LX 200, a multiuser device which supports up to 1500 network addresses.

Retix also announced new members of its ROUTERXchange 7000 RX7100 family of Ethernet to WAN routers.

The two additions offer low cost remote connection for branch offices, with the RX 7102 ($US1795) offering one Ethernet and one WAN port, and the RX 7103 ($US2295) offering one Ethernet and two WAN ports.

Designed for installation by non-technical personnel, the routers include 4:1 data compression, simultaneous routing for IP and IPX, and bridging for all protocols, including DECnet, XNS and AppleTalk. RS232, X.21, V.35, RS449, G.703 and T1 WAN interfaces are supported.

Dial-up Frame Relay

StrataCom was showing capabilities announced in late August, with dial-up Frame Relay and voice over Frame Relay forming the centrepieces of its booth.

The company's INS (intelligent network server) is a key addition to the company's WAN architecture, and includes dial-up Frame Relay and SVCs (switched virtual circuits) across the WAN.

The company believes dial-up Frame Relay (which uses ISDN for access) will be importan for companies implementing remote office or telecommuting policies.

This combination of ISDN and Frame Relay allows carriers and service providers to deliver the class-of-service, speed and virtual networking options of Frame Relay, while using the cheaper customer "tails" provided by ISDN.

The company also demonstrated voice traffic over a Frame Relay/ATM network, to demonstrate the voice/data integration capabilities of its sub-T1 multiplexer, FastPAD.

3Com launches fast range

3Com showed products in the Fast Ethernet range it announced on September 6, including adapters, hubs, routers, switches and stackables.

Leading its charge are adapters which offer 10/100M bps performance at under $US300. Versions have been announced for both EISA and PCI architectures, and the adapters include automatic speed sensing.

The SuperStack 100 Base-TX hub will provide low cost, high speed desktop connections, and is due for release in the first half of 1995. For customers with older cabling, the company announced both adapters and a SuperStack hub which support Category 3 plant, both due in the first half of 1995.

Routing between Fast Ethernet and other technologies will be supported by the 100Base-T NETBuilder II interface module, while the LinkSwitch 10-100 SuperStack switch (late next year) will offer increased workgroup performance.

Also due in the second half of 1995 is the LinkSwitch 100Base-T switch in the SuperStack form factor, and will work with the LANplex 6000 100Base-T interface module to anchor the backbone and provide interconnection between workgroups.

The LinkBuilder 10-100 MSH 10Base-T switch module, due early in 1996, will offer a 100Base-T downlink; a 100Base-T version of this switch is also expected.

The company also announced an expansion of its Boundary Routing strategy.

The NETBuilder Remote Office line can now support both central and remote site functions, under its Model 227, which can act as a central site router supporting between three and 10 boundary nodes.

UB Networks takes on LightStream

LightStream isn't a name well known in Australia, but this could change following a distribution agreement announced at Networld+Interop.

UB Networks announced that it will be ditributing the LightStream 2020 ATM backbone switch as part of its ATM/Anywhere strategy.

The switch includes line speed internetworking and global virtual LAN services for both Ethernet and FDDI LANs, fully integrated with ATM switching.

The company also demonstrated interoperability between its own GeoSwitch 155 and the LightStream 2020. The GeoSwitch offers between four and sixteen 155M bps ports on fibre or Category 5 UTP media.

Briefs from the show floor

Fibronics

– Networld+Interop was the venue for the first showing of products which will form the basis of Fibronics' switching rollout announced at the end of August.

The company demoted its four slot GigaHub (*CE*, August), along with a six port Ethernet switch card for the GigaHub and a standalone 16 port Ethernet switch which connects to FDDI backbones.

The XM516 Ethernet switch card provides 10M bps on each of six Ethernet ports, and offers multiple data paths, low latency and maximised network utilisation.

The FX8616 Ethernet-to-FDDI switch also offers 10M bps per port. Flexible segmentation allows traffic to be routed anywhere on the network, and the switch includes address filtering, protection against corrupted data, and IP fragmentation.

Chipcom

– announced the completion of its acquisition of David Systems, which will retain its name while continuing to operate as a Chipcom company.

The company says David Systems will provide it with high end Ethernet stackable technology, as well as David's Fast Ethernet technology developed in conjunction with National Semiconductor.

Lotus

– Notes Express** (see Marketing section) **was officially released, part of a swag of groupware announcements from Lotus.

A major upgrade to Soft Switch Central was also announced. Version 4.4 includes enhanced message management and support for e-mail packages which allow users to send one message with multiple attached data objects.

Also in the Soft Switch line, the company announced the mailFax 1.2 module, which supports automatic inbound fax routing to a recipient's desktop, and an optional translation capability to convert WP documents into fax format.

Symantec

– expanded the client support of Norton Administrator for Networks. DOS, Mac and OS/2 workstations can now be supported from under a single solution, with all Norton Administrator for Networks features covering all clients.

The company also announced that its pricing structure is being revised from the suggested retail price model to the estimated retail price structure.

Fujitsu

– is taking on the US systems management market with its NetWalker software, released in Japan 18 months ago. Aimed at managing Unix networks, NetWalker supports multivendor TCP/IP LANs nd WAN environments. Applications already available on the package cover hub management, router management and FDDI hub management.

Digital

– and Solectek showed wireless LAN links that support full roaming for PC users, with bridging software that lets PCMCIA adapters and access points automatically adjust addressing as users roam.

PCMCIA

– is starting to penetrate beyond laptops. Microplex introduced a multiprotocol print server which includes PCMCIA sockets, allowing the servers to be redeployed to new network interfaces with a simple card change.

Apple

– joined the Desktop Management Task Force (DMTF), opening up the expanding group beyond the strictly PC environment which has so far inhibited its penetration. Apple will be supporting the DMTF's DMI (desktop management interface) specification in its Mac products.

Back in the black

by Helen Dancer

Hartmut Boedefeld ... 'success equals good marketing.'

Back is possibly not the most appropriate word to use about Scitec, because in managing director Hartmut Boedefeld's estimation, it's not as if the company has been away or doing anything differently.

In this case however, the company's financial results heralded a welcome return to profitability after a year of hard work, belt tightening and tough decisions.

It is a radical turnaround for a company which returned a net loss in the previous year of $17.3 million, attributed to intellectual property write offs and some restructuring, including the closing down of operations in Europe.

The loss meant that the debt to equity ratio in June 1993 was around 421 per cent of shareholder funds. Now the ratio is closer to an eminently more respectable 25 per cent.

This year, Mr Boedefeld says the company posted $1.1 million clear profit and is on track to achieve its target growth of 30 per cent, and sustain a compound annual growth rate of 20 per cent, to be a $100 million company by the year 2000.

But growing a small company in an emerging and rapidly evolving market necessarily involves some risk and it seems evident from conversations with Mr Boedefeld that the company benefits from those risks, whether the particular outcome is positive or negative.

> *'Our future is in sending our products to school ...'*

European operations seemed a natural growth path for the small Australian company, which was founded in 1978 and in 1983 launched its first major telecommunications product, the BSP-T1 high speed integrated voice/data multiplexer.

In Europe, Mr Boedefeld says, Australia has a reputation for being hi-tech.

"Only the Australians themselves don't know this. Sure the average person in the streets thinks Australia and thinks kangaroos and the Sydney Opera House, but insiders know Australian technology for what it is – first class," said Mr Boedefeld.

Lots of Australians are unaware, he says, of the Australian components that go into some of the finest and most expensive imports from Europe.

Mercedes Benz suspensions, for example, are made here, as are the engines for some models of Opel cars. The historical implication that if it's imported, it's better is "absolute nonsense", he said.

Absolute nonsense is also close to Mr Boedefeld's impression of government policy, especially as it relates to high technology and companies' ability to plan for the long term.

"The government in this country is constantly changing its mind, its direction, its policies. How can we possibly put a long term strategy for the company in place if we cannot get a bearing on where the government stands on issues and on us.

"When it comes to the issue of exports, where we could use some help, they want to have a say, but they don't help. They should just set guidelines, then step back and leave it to business," Mr Boedefeld added.

Exporting has been a watershed in Scitec's development, and in each case, Mr Boedefeld says, success has been tied to choosing good partners and marketing.

"The BSP point to point multiplexer was a revolution. It was two way, and had transmission and satellite buffering with 256 ports. Racal, the distributor in Germany (where Mr Boedefeld worked before coming to Australia to work for Scitec directly) sold lots of them.

"But that's the whole story with a small company. Most of the marketing effort is directed towards its own country where it thrives, while in other countries it relies on the distributor for the success of the product. Success equals good marketing, as well as product excellence."

The Maxima was the logical next step in product evolution, and when it appeared, it had very little competition.

"The Maxima meant that while you could previously have had a link between Sydney and Melbourne, and Sydney and Canberra, you could now use these links to send packets from Melbourne and Canberra.

"Not only that, if one of the links broke down, traffic would be automatically rerouted. The breakthrough with the Maxima was that it was self-healing."

So will the information superhighway, ubiquitous consumer broadband, call it what you will, put paid to the demand for VPN, in which Scitec lives and prospers? Or will Scitec simply become a supplier to that field?

"VPN is all about control. In this world, that's becoming more, not less crucial. There's a lot of companies out there under pressure to go VPN and the pressure has nothing to do with the information superhighway, whether it comes or whether it doesn't.

"The indication to us of this pressure is that we increased revenue on Maxima by 63 per cent last year."

The product for the future, he says, is Scitec's newest evolution, the FastLane.

The development curve was a steep one and one in which the company learned as much about its customers as its technology, said Mr Boedefeld.

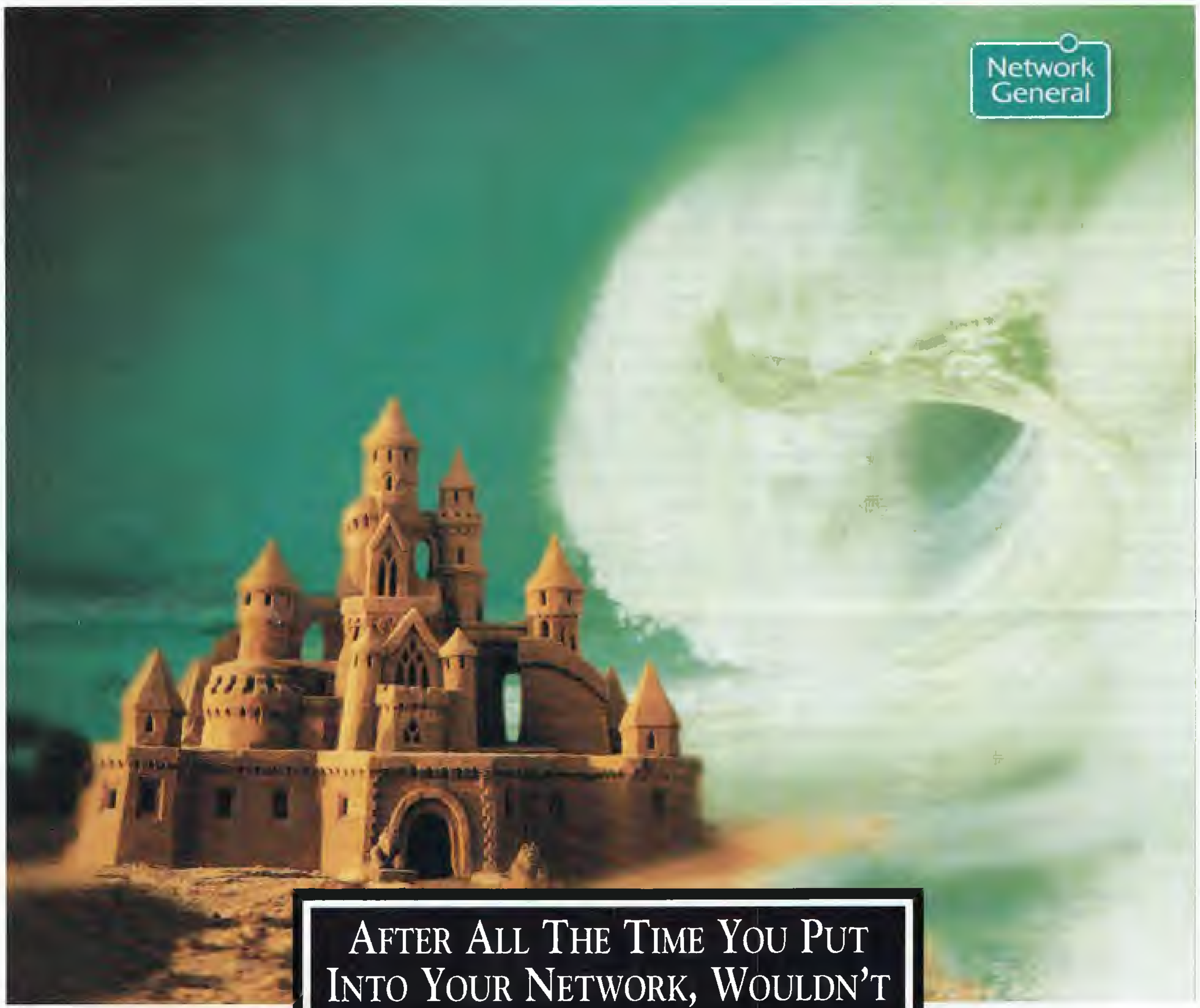
"These people can't afford specialists so we have to build that intelligence into the product.

"When your business is a green grocers, why would you justify paying a network administrator? And if they can't do that, they are not going to pay us the consulting fees either.

"So it's up to us build in everything they need into the product. It should be self-configuring, there should be operational menus which are absolutely non-technical."

Any piece of technology can be made more user friendly and specific to the need, he says, from an answering machine up. Any dummy product can make dummy decisions, the intelligence is only as good as the programmer's.

"Our future is in sending our products to school, if you like to put it that way," said Mr Boedefeld.



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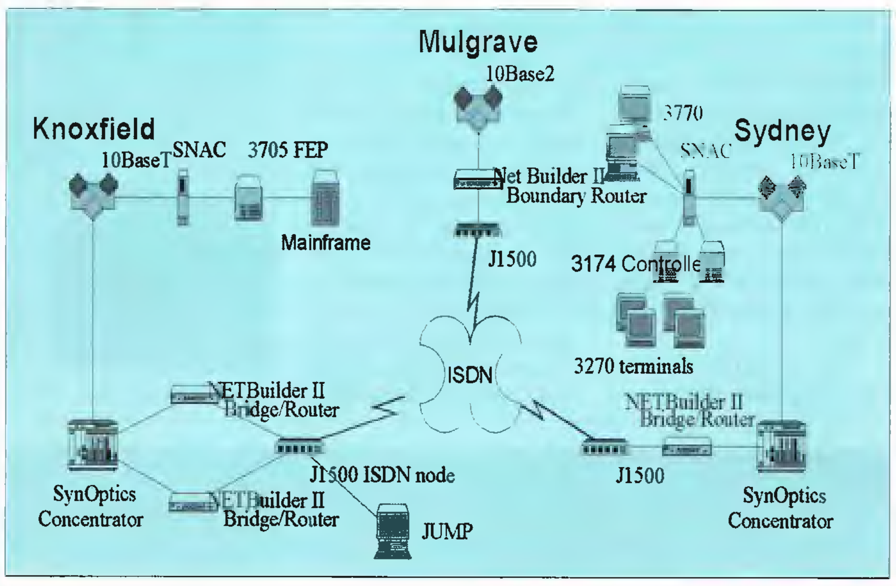
Bull migrates grocery supplier to client/server

by Shanti Dahya



In a major overhaul of its IT requirements, Composite Buyers, a grocery wholesaler and distributor with an annual turnover of $1 billion, has migrated from a terminal/host to an open systems environment.

The physical installation was recently completed by Bull HN Information System, which was initially contracted by Composite Buyers to undertake a migration viability study which looked at the cost of moving the existing applications from mainframe to Unix client/server environment.

Bill Darlison, Composite Buyers' information systems manager, said the expertise demonstrated by Bull consultants was impressive and the company decided to continue its partnership with Bull to determine its future strategy and direction.

"We wanted the best technologies to provide us with a robust network between the various Composite sites, including our nine subsidiaries," said Mr Darlison.

He said once the decision was made to migrate to a client/server, a new system consisting of a Pyramid MIServer 4ES/4 located at head office in Melbourne and an MIServer 2ES/2 for Sydney branch was chosen as the Oracle server.

Bull developed Composite Buyers' network topology for its LAN/WAN requirements, before specifying and installing the network operating system.

Bernard Katz, Bull HN's national marketing manager, said the Unix-based client/server WAN meets both the short and long term needs of Composite Buyers.

"As network traffic grows, bandwidth can expand to meet the needs of the business.

"The design allows for network expansion without compromising the integrity of the design. It allows Composite to modify the network to suit their business needs," said Mr Katz.

Designed to eventually support over 450 users, the network will be used by the company for warehouse management, financial, retail price management, scan support, purchasing, merchandising, ordering and invoicing.

The 10Base-T LAN at the head office in Knoxfield, Melbourne and its branch in Sydney are linked via ISDN using Jtec's J1500 ISDN node. The Knoxfield network currently supports 250 users and the Sydney network over 50 users.

The 10Base2 LAN at Composite Buyers' retail branch in Mulgrave, Melbourne, which is part of the company's expansion direction, is also linked to the head office via ISDN using the J1500 node.

Mr Katz said the use of ISDN provides Composite with the ability to integrate voice and data along a common trunk line.

From the network integration perspective, Bull recommended 3Com NetBuilder routers and SynOptics intelligent hubs, connected using both twisted pair and fibre cabling.

"To ensure that access and administration to network resources was available from a single point, Bull recommended Banyan Vines due to its ease of use and its ability to manage and control access to all network resources," added Mr Katz.

He said the WAN is currently managed using SynOptics Optivity network management system and the ISDN link is monitored via JUMP (Jtec user management program).

The WAN currently provides access via SNAC (SNA converter) to the mainframe environment, which is currently being used by Composite Buyers to redevelop its mainframe applications under Oracle database. This process is expected to take 12 months before migration is complete.

"The connection to the existing IBM compatible mainframe host has been incorporated to minimise the need for additional communications lines to support the existing terminal users," explained Mr Katz.

ASX relies on ATM WAN for its transactions

by Julie Robotham

The Australian Stock Exchange (ASX) has chosen a disaster tolerant ATM switching solution as the heart of its clearing house electronic subregister system (CHESS) project, which will allow most of the ASX's transactions to be completed electronically.

The solution is believed to be a world first in that it converts host information to FDDI before switching it via ATM, and also because it employs broadband microwave transmission to relay the data between the two switching sites.

The system is based on Digital's GIGAswitch multi-FDDI equipment. The core is a fully redundant dual hub, across two sites, one in central Sydney and the other 7km away at Bondi. The host at either end of the link is Digital's 7000 system.

Angus Richards, managing director of the ASX Settlement and Transfer Corporation (ASTC). said: "The purpose is to allow us to effect disk shadowing, keeping multiple copies of databases. There will be two at the prime site and a third disk at the remote site."

CHESS's user community – the brokers, institutional investors and brokers' registries among other – access the CHESS application host in most cases by Telecom's Austpac X.25 data network. Authorised low volume users can dial in to the system.

All transactions are written simultaneously to the local host disk and to the remote one.

In the event of a disaster at one site, the system would not only have an up to date archive of all completed transactions, but would also be able to complete transactions in progress.

"What we did was to move data centre operations off proprietary cluster interconnect buses on to a more standard network infrastructure," said Shelly Speer, Digital's ATM product manager.

Mr Speer said 100M bps FDDI was the only feasible technology for the installation. ATM was too immature to use directly between the hosts to carry the ASX's mission critical data.

He said the same applied to Fast Ethernet. Other mature options, such as Ethernet or Token Ring, were an order of magnitude too slow to carry the 45M bps traffic generated by the ASX.

The advantage of using FDDI over ATM was that it presented the ASX with a clear upgrade path to full ATM in future, Mr Speer said.

For example, if Telecom were to make ATM available as a service, ASX could choose to use that service, while maintaining the microwave link as a back up.

The 90M bps link itself is based on microwave communications equipment, supplied by ATI Australia.

ATI's technical director, Peter Choquenot, said: "Given that ATM needs bandwidth, no terrestrial services, with the possible exception of SMDS over FastPac, meets its requirements."

ATI had already sold several broadband microwave installations in Australia, Mr Choquenot said, but the ASX was the first to use the transmission system for carrying ATM traffic.

He said several universities were also interested in broadband microwave.

They needed broadband transmission to transmit high volume research files, such as scientific visualisation files, and many with spread campuses were restricted by Austel's ruling that organisations may not run their own fibre cable over distances greater than 500m.

The ATI partnership has a precedent. South Sydney Area Health Authority used ATI microwave to relay data between sites on either side of the George's River, but in that case it was a simple, unswitched FDDI transmission pipe.

'The purpose is to allow us to effect disk shadowing ...'

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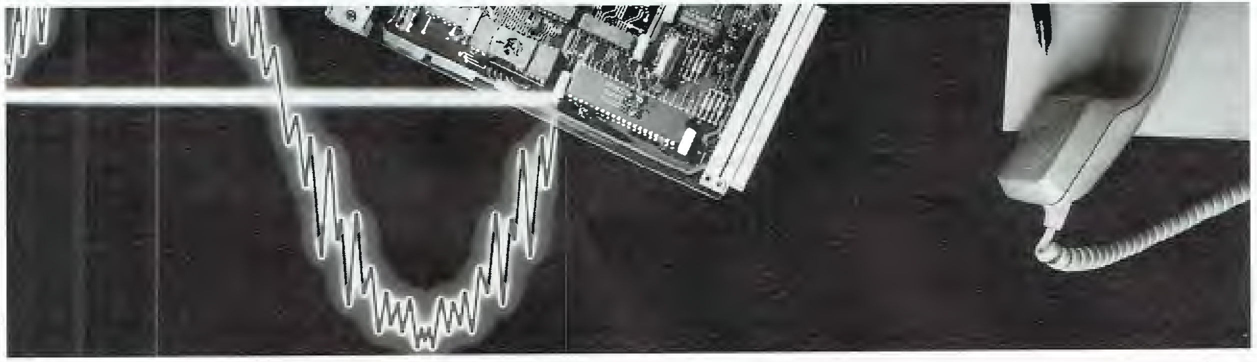

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Deakin Uni implements help desk system

Deakin University in Victoria has turned to Integration Design for the planning, monitoring and maintaining of its growing state wide, five campus LAN/WAN mixed environment network.

The university's network of a mix of 5000 IBM and Macintosh workstations spread over a 350km radius uses Integration Design's Action Request System by Remedy has been implemented to allow support departments to easily track incidents and requests on the network.

The university's commercial and maintenance services manager, Wayne Eason, said the product was chosen because it interfaced with both Macs and PCs, as well had the potential of coping with traffic flow of the network.

He said the request system is more than a help desk system, "it is a development tool with pre-existing modules and the ability to provide for all aspects of tracking and monitoring events.

"We needed to respond more readily to customer requests and successfully operate our fault fixing operation.

"We also needed to be able to produce management statistics and the product also has the ability to provide the basis of an expert system to provide solutions to recurring problems," said Mr Eason.

He said another advantage is that the Action Request toolset can be used to develop any sort of database application for end users, fairly quickly.

The application runs on Sun workstations, with Windows, Macintosh and X-client interface facilities on the LAN/WAN.

... and ANU takes command of cable management

Integration Design has also been awarded a contract to supply and install a computer-based cable management system for the Australian National University (ANU) in Canberra.

This contract is similar to the one from the RAAF, which is based on ISI-CAD's Command 2000 graphics-based software product.

The ANU network consists of several kilometers of cabling across campuses, serving several hundred users on the network.

The Command 2000 cable management system provides a means of controlling the cabling by graphically presenting the data and telecommunications infrastructure, including cabling, pathways, connections, outlets and devices.

"Command 2000 puts users in control of their communications environment, so they can design and manage cost-effectively now, as well as plan for tomorrows growth and change," said Adam Wilkins, Integration Design's NSW state manager.

AT&T to manage staff on client/server

AT&T Global Information Solutions and AT&T International are to use PeopleSoft's Human Resource Management Systems (HRMS) to manage their 53,000 employees worldwide, which the organisations expect to significantly reduce administrative costs.

According to PeopleSoft, the client-server applications, running on Oracle7 database and AT&T GIS/Unix computers, will allow AT&T to standardise and automate international staffing and reporting.

Currently, AT&T Easylink, AT&T Corporate Information & Telecommunications Services and AT&T Global Information Systems are managing over 31,000 employees in the US using PeopleSoft's HRMS.

After reviewing some 20 different software packages, the HRMS was chosen "because we feel they support true client-server architecture and global functionality we need", said Tom Cooper, district manager, Human Resources Information Systems Organisation, Technology Planning, AT&T.

The HRMS modules will provide AT&T with an integrated software solution to handle recruitment, compensation management, career planning and basic employee record management.

With multiple currency and language capability, AT&T will be able to customise systems for offices in different countries, as well as translate information for streamlined reporting back to the US corporate offices.

HRMS will allow human resource personnel to enter information about new employees into an on-line database, track all information about employees during their tenure, and facilitate payroll operations throughout international offices.

AT&T also plans to use PeopleTools initially to customise the applications to meet legal requirements specific to each country, along with its internal standards.

"PeopleSoft HRMS will help AT&T establish a standard infrastructure to provide critical staffing information throughout the organisation," explained Mr Cooper.

"A standard infrastructure will allow us to get information to the executives much faster and provide the necessary support for the hiring process."

Mr Cooper said the rollout of the PeopleSoft's HRMS will begin in the Asia Pacific region and continue throughout 1996.

Alcatel ATM set up for cinema trials

Pacific Bell in the US has set up a service trial of the cinema of the future, which uses Alcatel's 1000 AX ATM multiplexer and router to transmit digitised movies, live sporting events and other realtime programs.

Earlier this year, the Pacific Bell and Alcatel Network Systems, Alcatel's US subsidiary, demonstrated the ATM SDVN (switched digital video network) service during the final week of the World Cup soccer tournament.

Both companies participated in full scale ATM-based productions, featuring both NTSC and digital HDTV formats from Rose Bowl in Pasadena.

"Switched digital video services are clearly driving the convergence of the cable and telephony industries," said Howard Gunn, Alcatel Network System's vice president for marketing in the US.

"This test project gave both companies the opportunity to get out of the lab and show real consumers the value of broadband switched services.

"For the first time ever, as many as three million people watched a world event in HDTV, a task which would not have been economically viable or technically feasible without the Alcatel 1000 AX cutover," Mr Gunn said.

The Alcatel 1000 AX currently supports cell relay switching for ATM DS3 and OC3 transport facilities. Besides SDVN services, it supports Frame Relay over ATM, SMDS over ATM and other cell relay services, which will also be evaluated as part of the testing.

Additional SDVN demonstrations are scheduled for later this year.

KPMG's e-mail network supports 30,000 users

A global electronic mail (GEM) network has been set up by the accounting and management consulting firm, KPMG Peat Marwick, to improve efficiency and quality of information flow between offices scattered in 131 countries.

Supporting 30,000 KPMG personnel and clients, the GEM network uses X.400 communications standard provided through GE Information Services' (GEIS's) private worldwide telecommunications network.

KMPG believes the GEM not only suits KMPG firms using their own e-mail systems, but also for smaller firms, without a high level IT investment.

According to Robert Rob, KPMG's general manager of IT in Melbourne, KPMG also sees GEM as a vital tool in making its international expertise available to each of its clients worldwide.

"We are often dealing with multinational clients in multiple locations, and GEM is invaluable in a situation like this," Mr Rob said.

"It enables us to work on joint proposals and share resources in a way that was not possible before.

"Not only does the flow of information remain consistent, with a greatly reduced chance of errors and mis-communications, but work can continue around the clock around the globe, unhindered by time differences."

Stratacom frames Tokio Marine

The Tokio Marine and Fire Insurance Company in Japan has installed a private Frame Relay network using Stratcom technology.

Based on an initial order for multiple systems, the new network will connect 440 domestic offices and 3300 terminals, allowing 14,500 staff to communicate and exchange data.

Describing the network as a corporate information highway, Tokio Marine believes it is part of a pioneering example of a large scale open system implementation project.

The wide area backbone is provided by StratCom IPX narrowband ATM cell switches, which allows the interconnection 70 Unix servers and 600 TCP/IP LANs while supporting 4000 Windows-based PCs.

The backbone will initially carry Frame Relay-based data and the ATM switches will allow ATM services to be added in future to the network.

Tokio Marine says the IPX-based network was judged the best to meet its objectives for improving cost-effectiveness, service, quality and speed.

A New Horizon for faxing

Perth-based travel wholesaler, New Horizons, has streamlined its fax operations with VSI*Fax, a Unix-based fax management system.

Distributed by ADB Computer Systems, VSI*Fax converts Unix files to Group III fax images and schedules them for transmission to a serial fax modem. Received faxes are stored on disk for later processing.

New Horizon's Perth office uses a PABX connected to Telecom's ISDN lines and by connecting the VSI*Fax model via ISDN, each fax costs less than the price of a local call using PSTN, said Denis Charron, New Horizon's manager information systems.

VSI*Fax also features FxVision, a complete workstation facsimile interface for X-Windows, which allows users to send, receive, view and manage faxes on X-Windows.

Mr Charron said "We have been impressed with the clarity of the documentation which comes with VSI*Fax and is a very cost-effective procedure of faxing documents."

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Telecom CAREs for Rwanda

Telstra's Satcom-M satellite service is providing CARE Australia's team of aid workers in war-torn Rwanda with a 24 hour link to its Canberra headquarters and media outlets around the world.

CARE Australia's emergencies coordinator, John Burrough, who recently returned from the Rwanda/Tanzania border, said the Satcom-M service provides a digital voice and fax link which enables the immediate exchange of information with its Canberra HQ, and contact with the CARE network, media and other aid agencies.

"The conditions in Rwanda are rudimentary. Our staff live and work in tents, with the Satcom poking out the flap to enable a clear line of site to the satellite," Mr Burrough said.

"It's dangerous work. We have two workers making assessments in areas which have experienced extreme instability, and the Satcom is their only link with the outside world."

CARE Australia currently has 10 experienced staff working in the Rwandan crisis.

Nortel's GSM handsets for MobileNet

Nortel Australia has announced a major contract to supply Telecom MobileNet with its latest top of the range GSM digital mobile phones.

To be marketed exclusively as the Telecom MobileNet Evolution and branded with the Telecom name, the Nortel handsets are manufactured by the company's European subsidiary AEG Mobile Communications.

The Evolution offers a full size, standard SIM card, which makes it transportable to a wide range of other digital mobile handsets and enhances international roaming capability.

Before endorsing the Nortel range, Telecom MobileNet tested the phones on the digital network.

To mark the launch of the Evolution range, Nortel is also introducing a new for old replacement policy for Telecom MobileNet Evolution products under warranty, which means that faulty phones will be replaced with a new Evolution phone on the spot.

The Evolution's standard battery gives 1 hour of talk time and 20 hours standby, while the high capacity battery provides 1.5 hours of talk time and 30 hours standby. The phone weighs only 240g regardless of which battery is fitted.

A wide range of accessories are available, including a Quick car kit, a full car kit with optional 5W booster, a desktop kit and additional batteries.

Optus MobileSat offers true mobility

A satellite based mobile phone system launched by Optus Communications provides mobile coverage throughout Australia.

Optus says its MobileSat service, developed over the past eight years by Optus and its development partners, will revolutionise communications in rural and remote areas, particularly for Australians working in transport, mining, coastal and agricultural industries, or on isolated homesteads.

Existing mobile networks only provide coverage of around 3 per cent of the Australian land mass. However, MobileSat customers can make and receive calls anywhere in Australia, as their calls are relayed directly to and from Optus' B-Series satellites.

Optus chairman Sir Brian Inglis said "The launch of MobileSat, the world's first satellite-based mobile phone service, will allow Australians living and working in the remotest parts of this country to stay in contact, and enjoy the safety, convenience and productivity benefits of mobile communications."

According to Optus, using a MobileSat phone is as easy as using a normal cellular phone, unlike existing HF radio systems, which require specialist skills. MobileSat telephones comprise a handset and cradle, a transceiver unit and a 1m antenna rod.

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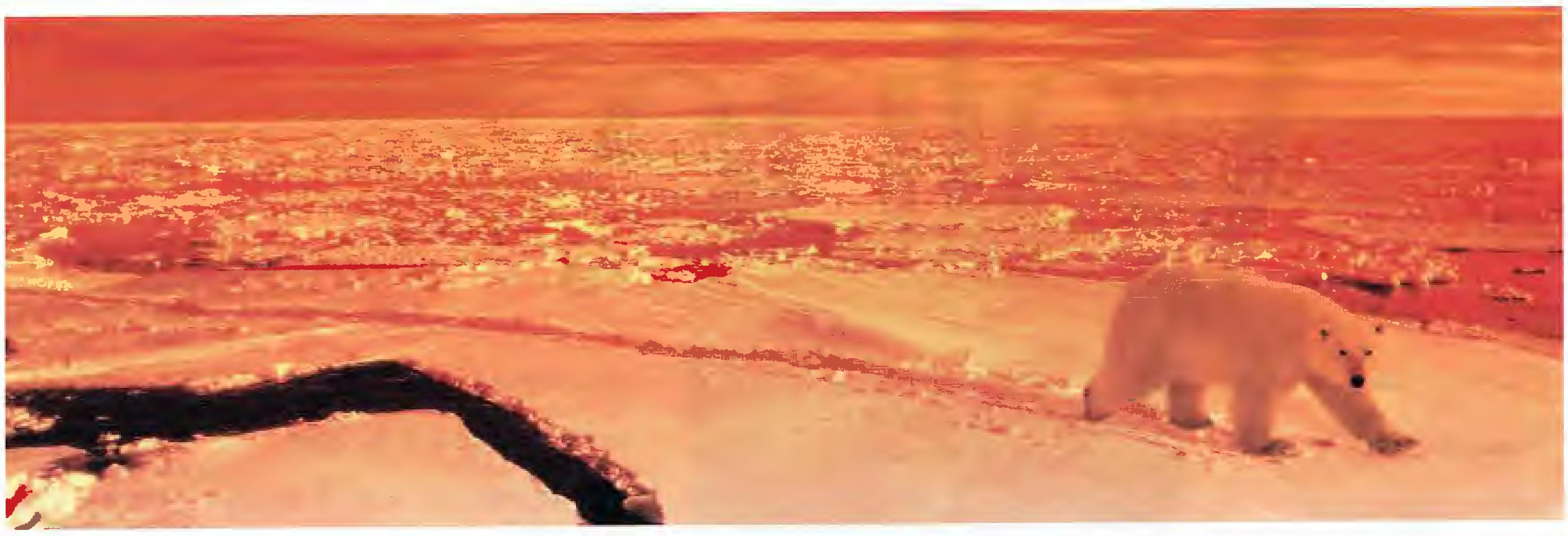

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AT&T signs with Webster

Tony Webster, managing (left) director, Webster Publishing, and Tim Wilson, managing director, AT&T Global Business Communications Systems.

AT&T has joined Australian software developer Webster Publishing to create an interactive telephone training tool. The agreement is part of AT&T's $104 million fixed term agreement signed with the federal government last year.

The BST Direct voice terminal training package, initially designed by AT&T Global Business Communications Systems (AT&T GBCS), will be developed by Webster Publishing to provide training on analogue and digital telephones attached to AT&T's Definity PABX systems.

The package operates on PCs in a Windows environment and will be used during the training phase of a PABX installation, as an ongoing training tool and as a training method for new employees.

The first release of the package will be available toward the end of 1994 and will be exported to the US, UK and other English speaking countries.

"We are offering Webster Publishing access to AT&T Bell Laboratories technology and quality principles, as well as providing marketing and promotion support in the region." said Tim Wilson, Managing Director, AT&T GBCS.

The package can be part of a company's LAN, ensuring every individual in a company can have access to the training package via their PC; and it can be fully customised to suit an individual's needs. The software architecture allows easy migration to a CD-ROM based system.

The package is designed so that users can walk through the training package at their own pace. Four training modes are provided:

☐ information mode which provides information on a particular feature or action;
☐ demonstration mode for a demonstration on the steps required to activate and use the features selected;
☐ interactive mode which uses help screens, arrows, tones, LCD and LED display information to lead the user through the steps required to activate and use the features selected; and
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Lotus teams up with Intel

Lotus and Intel have announced a worldwide marketing and product development agreement under which Lotus will deliver integrated data and video personal conferencing products for Lotus Notes based on ProShare personal conferencing technology.

Lotus and Intel will develop a range of products, including a Lotus Notes data conferencing product that will enable users to work simultaneously on a shared white board and on the same applications, as well as a video conferencing product for Notes.

With these products, users will be able to conduct real time conferencing from the Notes environment and easily bring Notes information into the conference. Notes product releases are expected over the next two years, leading with Windows based versions.

The Lotus Notes video conferencing product will support virtual meetings among multiple locations, using Intel's ProShare Video System 200 and successor Intel products, and will include an open Notes API for additional service providers to offer real time facilities.

For example, a sales director in Sydney with questions about a five year sales forecast could click on a video conferencing icon within the Notes environment, equipped with an Intel ProShare Video System 200, to query in real time the regional sales manager in Auckland.

The forecast, along with supporting information shared in Lotus Notes, could be reviewed and changed simultaneously by the sales director and manager during a PC based personal conference.

"Intel and Lotus share a common vision of the PC as the primary business communications device," said Geoff Healey, general manager, Intel Australia.

"This agreement is a major step in our ongoing efforts to deliver enabling communications technology, such as desktop data and video conferencing, to PC users."

The forthcoming Notes data and video conferencing products will support the Personal Conferencing Specification (PCS) with a goal to provide interoperability with other PCS-compliant data and video conferencing applications. Lotus and Intel are two of the 12 core members developing the PCS specification. The agreement includes training, technical and marketing support for Lotus Business Partners, Professional Developers, Authorised Education Centres (LAECs), as well as direct and indirect channel partners.

New voice network for Qld government

Pacific Star has set up a call handling system, using Telecom's Spectrum Gold voice service and fibre optic network, for the Queensland Government, which is believed to make government services more accessible and provide a cost savings of $15 million over five years.

The company has negotiated a five year contract with Telecom worth over $40 million, for the supply of Spectrum call handling system.

Telecom is supplying up to 32,000 telephone lines in 18 different government departments in Brisbane.

Besides handling telephone calls, the Spectrum network will support network wide flexible call handling, network call centres, voice messaging, data and video.

Telecom's national general manager, John Losco, said the contract is expected to accelerate the roll out of Telecom's intelligent network throughout Queensland, which will increase the availability of new services to the business community.

Optus takes NSW-G's mobile business

As part of a three year strategic services agreement, Optus is to provide mobile telephone services to the NSW Government, which is expected to provide a savings of $6 million or 29 per cent from the existing phone bill.

Administrative services minister Anne Cohen said the contract was awarded following a competitive tendering process.

"The mobile telephone agreement is the first of its type signed by the NSW Government." said Mrs Cohen.

"It is part of the wider strategic services agreement with Optus, providing whole of government incentives – with the potential for future agreements to be entered into in such areas as data and long distance services."

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Network Minder

Unisys Connect's Minder is a locally developed application for Windows, which combines software and associated services to provide set up and administration of Windows in a NetWare environment.

Minder minimises the administrative overhead required when running Windows on a network, and provides flexibility for users to move between locations in an office or company. This is achieved by providing Windows users on a network with a Windows environment managed from a central location, as well as eliminating user dependency of a particular workstation.

Minder's key features include:

- ☐ allowing any user to login to the network from any workstation, irrespective of hardware type, and always be presented with their own individual Windows environment;
- ☐ the ability for the network manager to manage any user's Windows environment from a workstation;
- ☐ the ability to create a new user's Windows environment in minutes;
- ☐ enabling the network manager to optionally place restrictions on any user's Window environment; and
- ☐ allowing Windows to be executed from a workstation's local hard disk to reduce network traffic, while still providing any user with their individual Windows environment.

According to Unisys Connect, users can also run into difficulties when they manipulate their Windows environment such as deleting an icon from a Windows group. Using Minder, network managers can address this problem by determining the level of changes a user can make to the Windows environment.

Minder not only improves the productivity of network managers, but also that of users by making the Windows environment easier to use, the company said.

Unisys Australia, (02) 963 6000.

100 on Information Card

PDA EnRoute to QuickMail

CE Software's EnRoute is a messaging application that connects the Newton compatible PDAs to QuickMail, the Macintosh e-mail system.

With EnRoute users can access their LAN-based QuickMail mailboxes using a Newton and a Newton-compatible modem. Users simply load EnRoute on a Newton compatible PDA, connect the modem to a phone line, and dial directly into the QuickMail Server to access their electronic mailboxes.

It allows users to perform the same critical communication functions with their PDAs as from their desktop systems, without compromising mobility.

EnRoute allows users to leverage Newton's Names File Application to create a list of QuickMail user addresses. To create a list, users simply add a new card to the Names File Application and put the QuickMail address in the e-mail field.

Users can also customise their systems to specific needs. Users can set preferences such as the QuickMail Server phone number, and password protection for EnRoute and message retrieval options.

Conexus, (02) 975 2799.

101 on Information Card

Laser connectivity

The ExtendNet ESI-2861A from AC&P is a low cost connectivity solution for Hewlett Packard laser printers to Novell NetWare Ethernet networks.

A member of the ExtendNet family of products from Extended Systems, the ESI-2861A provides high performance printing, which the company says is up to 30 times faster than traditional PC-based print servers, while costing a lot less.

Flash memory in the ESI-2861A ensures future NetWare upgrades are easily implemented without the need for network disruptions.

Compatible with all HP LaserJet printers with Modular I/O slots, the ESI-2861A is designed to meet the throughput needs of high speed printers.

Advanced Components & Peripherals, (03) 720 4344.

102 on Information Card

Printer controller

Intelligent Technologies has announced that the price of the AX-3 COBRA+, AXIS's external printer controller for IBM midrange systems, has been reduced by over 30%.

The company said AS/400 and S/3x users now have access to the most advanced printing solution for the best possible price. The AX-3 COBRA+ offers IBM twinax plug-compatibility, with drivers for all major printer manufacturers, including Lexmark/IBM, Epson, Oki, HP, Canon, Kyocera, Dataproducts and Xerox. It also features user programmable printer drivers with editable character and FGID font translation to match printer font cards.

The COBRA offers transparent data pass through, bar codes and BGU/APF graphics. Configuration is easy using a menu-driven set up from a 5250 terminal or via commands from the host. The unit has both parallel and serial printer connectors.

Intelligent Technologies, (02) 891 6010.

103 on Information Card

Intelligent serial board

Sealcorp has released the DigiBoard 8em, a modular intelligent serial board for ISA, EISA and MCA bus computers, supporting eight simultaneous users connected to a host PC.

The 8em is DigiBoard's first serial board with an optional parallel port installed on the PORTS/8em module.

The DigiBoard PORTS/8emp module provides an additional parallel port to its standard eight RS232 serial ports.

The company says connecting a printer to the PORTS/8emp instead of the host computer's parallel printer port offers speed and increased performance. The Risc processor on the 8em host adapter card relieves the host CPU of managing printer tasks.

The card uses DigiBoard's proprietary front end processor/operating system (FEP/OS) to provide performance of up to 115.2K bps for multiuser and remote access application.

Its bidirectional capabilities make it suitable for attaching to high speed modems.

Each version of the 8em features a host adapter card with a 20MHz IDT 3051 Risc processor, a PORTS/8em or 8emp module linked via a 1.52m cable.

Up to 64 users can be supported by connecting up to four PORTS/8em or PORTS/16em modules to the host adapter card that resides in the host PC.

Sealcorp, (02) 418 9099.

104 on Information Card

Transmission line tester

American Reliance's AR186T transmission line tester is a small, reliable unit designed for use in the field.

Key features include a synthesised sinewave generator; a 20Hz to 50kHz precision low frequency counter; a -60 to +10dBm level meter, psophometric noise measurements; a telephone handset with DTMF, MF and DP dial modes; and a monitor; and a speaker and a microphone.

Options include a built-in multimeter, return loss measurements, phase jitter and impulse noise and hits measurements.

Maser Technology, (02) 415 2877.

105 on Information Card

Dual attached EISA adapters

Cisco Systems has released two dual attachment adapter cards that provide fault tolerant connection to 100M bps FDDI and CDDI networks for EISA-based PCs, workstations and servers.

The company also announced a driver software for Silicon Graphics' Indigo2 workstations and Challenge M servers. The SGI drivers are now available for Cisco's entire line of single and dual attachment EISA products.

Cisco's CDDI and FDDI dual attachment station (DAS) EISA adapters are single slot solutions shipping with a range of driver software.

Also available are drivers for Novell NetWare servers and clients, Microsoft Windows NT systems, HP/Apollo 9000 Series 700 workstations, and PCs running Sun Microsystems PC/NFS or other NDIS compatible applications.

With the driver for Indigo2 and Challenge M products, SGI users can achieve high speed CDDI or FDDI connectivity through the EISA bus.

DAS adapters provide workstations and servers with redundant connections to CDDI/FDDI networks, addressing mission critical applications where high availability networking is a necessity.

The DAS adapters can be used either in a dual-ring configuration, which connects the server directly to the FDDI backbone ring; or in a dual-homed configuration, which connects the server to the backbone ring through two redundant links to separate concentrators, resulting in maximising fault tolerance.

An on-board processor performs all station management functions, freeing the host system to run applications.

The easy to use adapters offer Flash memory-based power-on diagnostics, which run a self-test when the host is powered up, with LEDs on the faceplate indicating the operating status of the card.

Support for an optical bypass switch prevents ring segmentation caused by power loss or adapter malfunction.

FDDI network statistics can be monitored locally using the FDDISTAT program or remotely by FDDI management applications such as Cisco's Workgroup Director.

As well, SNMP agent for HP/Apollo 9000 Series 700 workstations lets users monitor adapter status remotely from any SNMP-based network management console.

Cisco Systems Australia, (02) 957 4944.

106 on Information Card

Low cost router board

Cray Communications' Multi Access Router offering is suitable for interconnecting smaller sites and providing branch office access to a central source.

This full power, single board enterprise router can be used in multiple environments, including low cost edge router applications.

It uses Cray's 32Mips Risc processor to provide full functionality of an enterprise router a lower cost than an edge router.

The Multi Access Router is available as a single plug and play board in a standalone dual slot cabinet with pre-loaded software on Flash/PROM and plug-in modules for LAN and WAN connection.

It can also plug into Cray's System Centre, the intelligent network hub that integrates router concentrator and terminal server technology in one box, making the unit suitable for branch office solutions.

Protocols supported by the Multi Access Router include IP via RIP or OSPF, Novell IPX, OSI via ES-IS and IS-IS, and DECnet IV and V.

Cray's Multi-Path Bridging can bridge any remaining protocols to provide efficient load sharing and backup. Advanced MAC and network layer filtering reduces unwanted traffic and allows security implementation.

LAN connection is via the Cray System Centre backplane or the front panel of the Multi Access Router card, while two WAN connections provided via the front panel of the router.

It offers a proprietary V.42 compression that compresses the entire packet, and searching for repetitive patterns in forward traffic, achieving actual compression of between two and 40 times.

The Multi Access Router can be managed and monitored from the Cray Network Management Centre (NMC) or Cray's network management system DomainView.

Cray Communications, (02) 451 6655.

107 on Information Card

Micro fibre optic Tx

Anderson Network is offering Starbus Communications' SB-32F micro fibre optic transceiver that complies with Ethernet V2/IEEE 802.3 10BaseFL transceiver specifications and 10M bps CSMA/CD, as well as FOIRL standards.

The small size of the Starbus SB-32F transceiver allows a direct plug-in connection to the AUI port of network devices, eliminating the need for a separate AUI cable.

Key features include an external user-selectable SQE signal, a built-in jabber function and seven LED indicators positioned on the surface the unit indicating receive, transmit, power, collision, jabber, SQE and link signals.

Anderson Network, (02) 838 7755.

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Training, conferences & exhibitions diary

Communications Engineer is pleased to receive information on forthcoming meetings, conferences and courses of interest to our readers. Submissions should be directed to the Editor. Communications Engineer, PO Box 5487, West Chatswood 2057.

October 3, Melbourne
ENGenius '94: an engineering conference organised by RMIT students, highlighting projects on electronics and communications. Lucinda Gray, ENGenius Liaison Officer, (03) 660 2590, fax (03) 662 1060.

October 4, Melbourne; October 5, Adelaide; October 7, Perth
Internetwork Bandwidth Optimisation: a seminar on data compression, express queuing and dial-up routing features, presented by Dennis Yan, vice president, Asia Pacific for Advanced Computer Communications. Bill Anderson, ADE Network Technology, (03) 543 2677, fax (03) 543 5582.

October 5-6, Sydney; October 6-7, Melbourne
The Internet Forum: a seminar and workshop focusing on Internet and its capabilities for both private and public organisations. IIR Conferences, (02) 954 5844, fax (02) 959 4684.

October 10-11, Sydney
ATM Broadband: a forum covering the latest on ATM technology. IIR Conferences, (02) 954 5844, fax (02) 959 4684.

October 13, Sydney
Frame Relay Forum: an education seminar covering applications of Frame Relay, case studies and the process of implementing Frame Relay networking. Carriers and value added service providers will detail existing and planned Frame Relay services. More details available from Frame Relay Forum Secretariat, telephone (02) 975 2582, fax (02) 452 5397.

October 17-21, Melbourne
TCP/IP Networking: a three day seminar and a two day hands-on workshop focusing on local area networking, protocols, services, local and wide area interconnectivity, and network management. Contact Housley Communications, telephone (02) 499 2666, fax (02) 498 7669.

October 24-25, Sydney
ATA '94: the second annual Australian Teleconferencing Association conference will present practical strategies, standards development, applications and directions for the teleconferencing industry. IIR Conferences, (02) 954 5844, fax (02) 959 4684.

October 24-25, Sydney
Modern Network Management: a seminar covering strategies, standards and products for network management. Housley Communications, telephone (02) 499 2666, fax (02) 498 7669.

October 26-28, Melbourne; November 2-4, Sydney
Understanding Telecommunications Revolution: presenting an overview of telecommunications systems and networks, technologies, products, services, applications and regulation. IIR Conferences, (02) 954 5844, fax (02) 959 4684.

November 2&3, Sydney
Managing Information Privacy: conference addressing the latest legislative policy and management issues for private and public sectors. IIR Conferences, (02) 954 5844, fax (02) 959 4684.

November 7-8, Sydney
Using Mobile Data Networks: this conference presents the effective use of mobile data networks. Housley Communications, telephone (02) 499 2666, fax (02) 498 7669.

November 7-9, Sydney
Understanding Data Communications & Networking: this course covers concepts, principles and terminology used in today's data communications and networking; along with hardware, software and standards. Accelerated Learning Centre, (02) 241 2830, fax (02) 241 2836.

November 7-11, Melbourne
Client/Server Architecture: this three day concepts seminar and a two implementation seminar will cover client/server concepts, issues, design and implementation. Housley Communications, telephone (02) 499 2666, fax (02) 498 7669. Housley Communications, telephone (02) 499 2666, fax (02) 498 7669.

November 14-18, Melbourne
Implementing LANs & Network Operating Systems: this five day course includes a combination of tutorial and hands-on sessions; an emphasis on the practical essentials of installing, maintaining and fixing LANS; and software and hardware fault diagnosis and rectification. Contact Housley Communications, telephone (02) 499 2666, fax (02) 498 7669.

November 21-22, Sydney
TCP/IP Networks: a two day seminar explaining TCP/IP implementation, administration, troubleshooting, management and integration. Accelerated Learning Centre, (02) 241 2830, fax (02) 241 2836.

November 23-24, Sydney
High Speed Networks: this two day course on the future of networking covers key technologies and how these can improve network design and use. Accelerated Learning Centre, (02) 241 2830, fax (02) 241 2836.

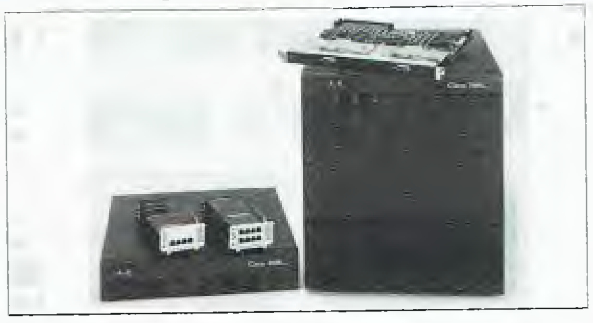
November 25-27, Sydney
MobileCom '94: a mobile communications exhibition to be held at the Darling Harbour, featuring the latest in mobile systems. Contact High Profile Communications, (03) 428 0415, fax (03) 428 9508.

November 28-30, Melbourne; December 7-9, Sydney
Internetworking Design: presenting internetworking design, operating of networking hardware, internetworking LAN/WAN migration and developing internetworking strategy. IIT Training, (02) 252 2844, fax (02) 247 1048.

December 4-7, Melbourne
ACOFT '94: the 19th Australian conference on optical fibre technology will cover research, development, production, application and business strategies of optical fibres and components, waveguides, sources, detectors, sensors and services for the communications industry. Contact IREE Conference Secretariat, telephone (02) 327 4822, fax (02) 362 3229.

December 8, Melbourne
Frame Relay Forum: an education seminar covering applications of Frame Relay, case studies and the process of implementing Frame Relay networking. Carriers and value added service providers will detail existing and planned Frame Relay services. More details available from Frame Relay Forum Secretariat, telephone (02) 975 2582, fax (02) 452 5397.

High performance regional router



Cisco Systems has extended the Cisco 4000 series of internetworking routers with a modular, mid-range router that offers performance to accommodate computation intensive WAN applications.

The Cisco 4500 accepts Cisco 4000 network processor modules and runs the Cisco Internetwork Operating System (IOS) software.

Using the IDT R4600 100MHz 64 bit Risc processor, the router offers three times the performance of the Cisco 4000, making the router well suited for regional office applications that concentrate on increasing densities of incoming branch office communication lines.

The Cisco 4500 is designed for customers who anticipate heavy use of existing Cisco IOS WAN optimisation features such as local acknowledgement of SNA WAN traffic; encapsulation of one protocol inside another for transport over a WAN backbone; priority and custom queuing; or filtering for remote access security.

It will also be suitable for use of the new Cisco IOS WAN optimisation features and high density ISDN interfaces, which include a new interface with four or eight ISDN BRI; protocol translation; and X.25 packet payload compression and link compression to optimise WAN bandwidth.

Cisco Systems Australia, (02) 957 4944.

109 on Information Card

AppMeter for LANs

AppMeter from Megatec is a software usage metering program for DOS and Windows applications and suites, such as Microsoft Office and Lotus SmartSuite.

It enables network administrators to guarantee application and suite license compliance and determine the most cost effective use of software.

AppMeter records usage data for both single and suite licences, including the duration of use, peak concurrent usage and specific user information which enables a network administrator to measure and document actual demand for suite and single application licenses.

AppMeter 1.1 also uses an algorithm that allocates the least expensive licence available, so a suite licence is granted only if a single license is not available or will not suffice.

These features allow a network administrator to efficiently allocate licenses across servers.

Oversight, an add-on product to AppMeter, compiles the application usage data gathered by AppMeter and generates consolidated reports detailing software usage across every file server.

An Oversight report, for example, might indicate that an application is over-utilised on one server, but under-utilised site-wide. This would indicate that licenses should be allocated across the servers at the site but no new copies need to be purchased.

Megatec, (03) 874 3633.

111 on Information Card

Connectivity products

DigiBoard's first product offerings for Hewlett-Packard's HP-UN platform include the Xem, C/X and EPC/X families of connectivity solutions for the HP 9000 Series 700 workstations running the HP-UX v9.0X operating system.

All three product lines expand the serial port capabilities of multiuser systems and facilitate remote access to LANs. They also feature on-board processors to reduce CPU input/output overhead and provide high data throughput.

The Xem family of expandable, intelligent serial port boards connects from eight to 64 serial devices, including terminals or modems, through a single host expansion slot. It provides transmission speeds of up to 115.2K bps, with surge protection on each port.

The C/X System offers a cost-effective way to add from 16 to 128 users to a multiuser or networked system via asynchronous serial ports. The cluster controller product provides 38.4K bps performance and typically reduces CPU overhead to less than 0.5 per cent of its processing power.

The EPC/X system connects up to 224 users through a single host expansion slot. It features a throughput up to 115.2K bps and reduces the host computer's CPU overhead by 0.1 to 0.2 percent of its processing power.

A fibre link option with the C/X and EPC/X systems allows workgroups to be located up to 2km from the host.

Sealcorp, (02) 418 9099.

112 on Information Card

EXTRA! adds SNA gateway

The new version of Attachmate EXTRA! for Windows expands its connectivity to include SNA gateways by Digital and Eicon, as well as increasing TCP/IP connectivity via the Novell NetWare for SAA server.

EXTRA! for Windows 4.1 is a high-performance, host-aware client that provides advanced user productivity through an easy-to-use, configurable graphical user interface.

Its TN3270 support has been enhanced to deliver full SNA LU1 and LU3 printing via Telnet server which supports TN3287. Expert controls dynamically add expertise to mainframe applications and are enabled in part by EXTRA! Basic, a Windows-Basic compliant scripting language. Its integrated API platform provides industry standard APIs for interfacing with HLLAPI, LUA or CPI-C based client applications.

With extensive enterprise connectivity, users can choose SNA sessions via LAN, both direct and remotely. Administrative support includes on-line configuration, end-user interface control, configurable security levels and software distribution.

Attachmate's optional Client Console, when installed on the network administrator's PC, allows the administrator to distribute EXTRA! for Windows throughout the enterprise.

This options provides built-in security capabilities, including locking toolbars, hotspots, menus and macros. EXTRA! for Windows can be customised by the network administrator for each user or workgroup and distributed from a central location.

Through its application-centric design capability, EXTRA! for Windows 4.1 transforms mainframe systems into flexible personal desktop application components which are easily integrated into a user's daily tasks.

Distributed Data Processing, (03) 694 6711.

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23 on Information Card

Sydney office for Madge

European Token Ring specialist Madge has opened an office in Sydney to support its expanding market here.

While expressing strong support for Madge's existing Australian distributor, DDP, Natalie Lucyszyn, who is heading the local operation, said the company's aim is to improve its own support both for customers and for its channel.

"DDP has done very well, and we're very happy with their performance and support of Australian customers," Ms Lucyszyn said, "we want to be here to support them."

A presence here, she said, will help Madge implement its marketing strategies. One objective is to find new Token Ring sites, as well as taking market share from other Token Ring players.

The company's product plans reflect this aim: increasingly aggressive pricing in Token Ring interfaces is clearly aimed at winning converts outside Token Ring's traditional base among Big Blue users.

According to Madge's international director of marketing Daniel Ng, pricing is "the important issue" in recent releases such as the Smart 16 Ringnode, which delivered Token Ring connectivity for around $600 (a far cry from a couple of years ago, when nearly all Token Ring NICs listed at above $1000).

IBM's long history of high pricing for its Tropic chipset has led vendors such as Madge and SMC to work on their own silicon: "taking the token away from IBM", as Mr Ng puts it.

"Owning the silicon lets us put downward pressure on prices at both the card and at the chip level," he said.

This is complemented by heavy investments in software; for example, reverse engineering the Texas chipsets used on its NICs allowed Madge to optimise its drivers for that chipset, resulting in the Fastmac and Fastmac+ drivers now used by third parties.

Interestingly, even within IBM sites, Mr Ng said Madge has found Australia to be more receptive than most markets to non-IBM Token Ring solutions.

Ms Lucyszyn said IBM's smaller share here reflects a more informed user base, more prepared to evaluate products on their own experience – "distributors are also generally better here than in the US".

Madge Oceania is located at Level 37, Gateway Building, Circular Quay, Sydney 2000, telephone 1 800 653 816.

Managing networks with DeMarc Banyan's next aim

by Richard Chirgwin

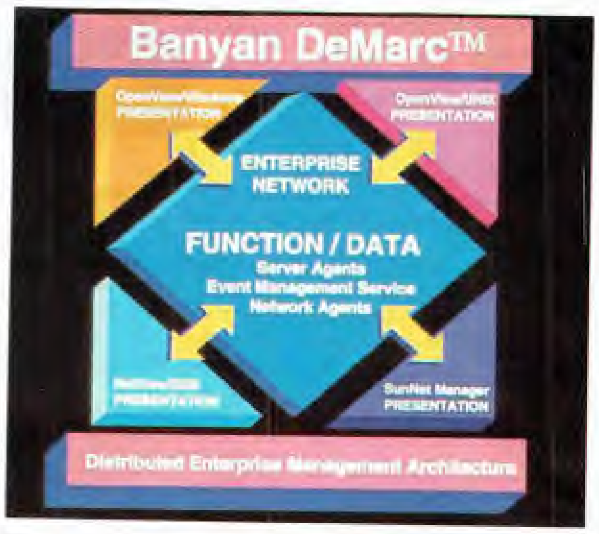
Some time ago now, squeezed by Novell in the NOS market, Banyan made the decision to broaden its base.

The last 18 months have seen the implementation of this strategy in the marketing of the ENS product family, which decouples network services (file, print, messaging, security and so on) from the underlying operating system.

Extending this strategy, Banyan has now made a raft of announcements in the network management arena. According to Banyan Asia Pacific's national channel partner manager Harry Carter, the company's approach is to "leverage the network to provide management information, instead of using a management station to seek information and return it to a single point."

Under its DeMarc (distributed enterprise management architecture) umbrella, Banyan has announced alliances with SNMP Research; Hewlett-Packard and IBM.

DeMarc, Mr Carter says, is designed to "distribute management intelligence to the network, and allow users to query the network from any location".



Banyan's aim is to integrate administration of the network operating system into the same SNMP environments used to manage hardware elements.

Integration with desktop management is also on the agenda, with Banyan committing itself to conform with the DMI (desktop management interface) as standards emerge.

The architecture is based around server agents – running on every network server, instead of a single management server – reporting back to management applications. Because these agents report to applications, rather than particular management stations, administrators can launch management applications from any workstation to query the server agent for status, performance and utilisation statistics. Server-based event management services collect, log and report event information using standard SQL databases, distributed around the network.

By aligning itself with SNMP Research, Banyan has enabled DeMarc to work with other SNMP II-based management suites.

Banyan's agreement with SNMP Research gives it a license to use SNMP Research's Extensible SNMP Agent (Emanate) with DeMarc. Banyan cites these benefits of this architecture:

☐ Banyan management products and third-party management products that both support SNMP II will be compatible;

☐ Banyan's ENS users will gain extra SNMP management capabilities, such as better performance, and additional security through password authentication, authorisation and access control;

☐ new or enhanced services, either from Banyan or third parties, will become available immediately upon activation, without manual updates to existing management hardware or software.

Banyan has also aligned itself with Hewlett-Packard and IBM. In both cases, it will enable its management applications to operate under the larger vendors' management platforms (OpenView and NetView).

Chipcom opens the box

Chipcom has launched a program aimed at opening up its hub architecture to third party suppliers. The company's OpenHub program is designed to make it easier for other vendors to adapt their technology to operate in the form factor of Chipcom hubs.

As a strategic partner of Chipcom, IBM is also a charter member of the OpenHub program, and will use the program to integrate technology into its own, as well as Chipcom's, hub products. IBM also plans to work with Chipcom to recruit OpenHub partners.

According to Chipcom, the program seeks to promote interoperability of hardware, and allow non-Chipcom products to be managed under its ONdemand NCS (network control system).

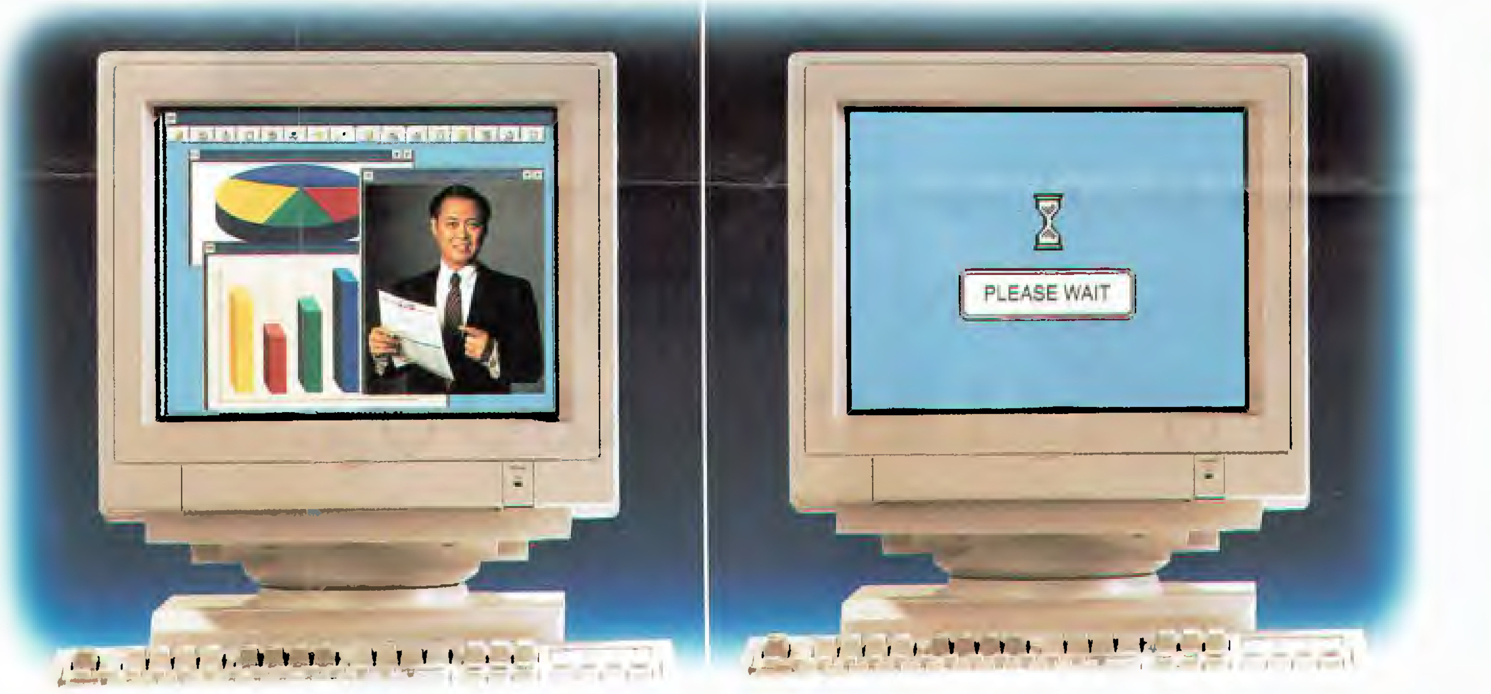
The OpenHub development program covers Chipcom's ONcore, ONline and ONsemble hub products.

Chipcom also believes the program will give a boost to various vertical market solutions, by allowing them to be integrated with its hubs. For example, POS, imaging or telecommunications applications could be integrated into Chipcom hubs.

Technically, the OpenHub program consists of two elements: an open motherboard/daughterboard specification, and management APIs. Participants receive a development kit providing all hardware and software specifications, documentation and APIs.

Chipcom has also announced that it will provide engineering and technical support to participants, along with compatibility testing.

One company
bought a 155 Mbps cable system.
The other one thought it did.



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NEC silicon gives Cisco an ATM edge

Cisco is about to start shipping the product that implements its entry into the ATM market.

The HyperSwitch A100, according to Cisco's Australia/New Zealand manager Richard Freemantle, takes advantage of "NEC's capacity to cut silicon". Cisco's contribution, he said, is to put this hardware with its own capabilities in software.

The switch will be used with the company's ATM interface processor (AIP) which began shipping in May. The company says the two products form a key plank of its CiscoFusion architecture.

Since congestion is a key issue in ATM implementation, the HyperSwitch A100 is able to buffer between 1000 and 2000 cells of traffic. Priority mechanisms distinguish between isochronous traffic, such as voice and video, and less critical traffic, such as LAN bursts.

The switch supports 100M bps Taxi and 155M bps Sonet interfaces on multimode fibre, with future interfaces to support single mode fibre Sonet, along with UTP copper, DS-3 and E3 interfaces.

Users can mix and match interface types, so the switch can support either workgroup or WAN environments, and up to sixteen 155M bps interfaces can be installed.

However, according to Mr Freemantle, the most important feature of the HyperSwitch A100 is its PNNI compliance.

Phase 0 of the PNNI (private network node interface) protocol was adopted by the ATM Forum in July as the first interoperability standard for ATM switches.

"Now, for the first time, users can build multi switch, multivendor networks and set up switched virtual connections across those networks without resorting to proprietary protocols", he said.

A more scalable version of the standard, Phase 1 PNNI, is expected by this time next year.

Mr Freemantle described PNNI as "routing functionality for ATM switches."

Scott Smith, Cisco Systems Australia's consultant engineer, explained further: "ATM is a standard for Layer 2 switching. In order to connect between networks, you still need routing functionality," he said.

What changes, in ATM environments, is the location of that routing functionality, so that "the market is going to integrate Layer 3 routing into other products." Integrating PNNI is an important differentiator, he said, since other switches in this class use external devices to control signalling, such as SparcStations.

While placing at risk the business of selling discrete boxes as routers, Mr Freemantle said the move among other manufacturers towards integrated routing creates a market opportunity to put Cisco's IOS (internetwork operating system) into other vendors' products.

Since Cisco isn't big enough to become ubiquitous on its own, he said partners are an important part of getting broader coverage for the company.

To attract partners, Cisco is working to become more visible among the manufacturers, he said; in effect, making manufacturers part of Cisco's market channel.

Wellfleet pact with Microsoft

Microsoft and Wellfleet have signed a co-operative agreement to ensure high support for customers using Wellfleet's networking solutions in Windows NT environments.

The two companies will work together in product development, testing, support, and joint sales and marketing.

Development co-operation will cover NetBIOS name caching for IP, dynamic host configuration, protocol optimisation, and the integration of the two firms' node management applications, as well as the ability to have a Wellfleet router obtain its IP address from an NT server using the DHCP protocol.

They will share ongoing development plans and specifications, exchange equipment, and work together on product development.

Under the agreement, Wellfleet has become a member of Microsoft's Solution Providers program. This is particularly important in Wellfleet's NetBIOS name caching plans, while it will improve efficiency of NetBIOS transport over IP based NT networks. Wellfleet's NetBIOS broadcast filters will enable administra-tors to filter NetBIOS traffic on a per-interface basis.

Briefer Notes: a strategy to expand groupware

Lotus Notes has, in a relatively short time, come to define the groupware market in the minds of most users.

Deploying Notes, however, requires a substantial commitment from the customer: user licenses aren't cheap, and some level of development is necessary.

Recognising that this may inhibit the spread of Notes around corporate networks, Lotus has announced a "stripped down" client that allows users to make a start at much lower cost.

"It's a subset of the Notes client" explained Lotus Australia's Notes product manager Alistair Cloke. "Notes Express is a viable option for basic messaging, and is aimed at broad, rather than strategic, communications applications."

Lotus is emphasising two important aspects of Notes Express: it works with exactly the same server platform as the full package, and provides full access to the Notes infrastructure.

The change is in what is available to users of the Notes Express client. Notes Express offers a much more limited development capability with its five bundled templates (client/server mail; a discussion database; a phone book; a reference database; and a news database).

Design is limited to changing or adding views and fields, and modifying to some extent the "look and feel" of a template. However, new forms cannot be created under Notes Express, nor can new macros be added.

The idea is to provide common services in an affordable package (down to as little as $150 per user in bulk). Lotus' rationale is that customers get started with far less investment than under the existing Notes environment, while Lotus gets a "foot in the door" of sites which may currently be reluctant to commit to groupware.

Notes Express' targets, according to Mr Cloke, are IS departments, which can deploy basic capabilities across a corporation; and end users, who are now offered an affordable package.

"Notes Express separates the IS decision from the business applications decision," he said.

"It gives you an easy startup, both LAN and mobile users have the same product, and it's easy to upgrade to a full Notes client."

Upgrades from Notes Express to Notes are a management process, rather than a disk installation. Notes Express will be shipping in October.

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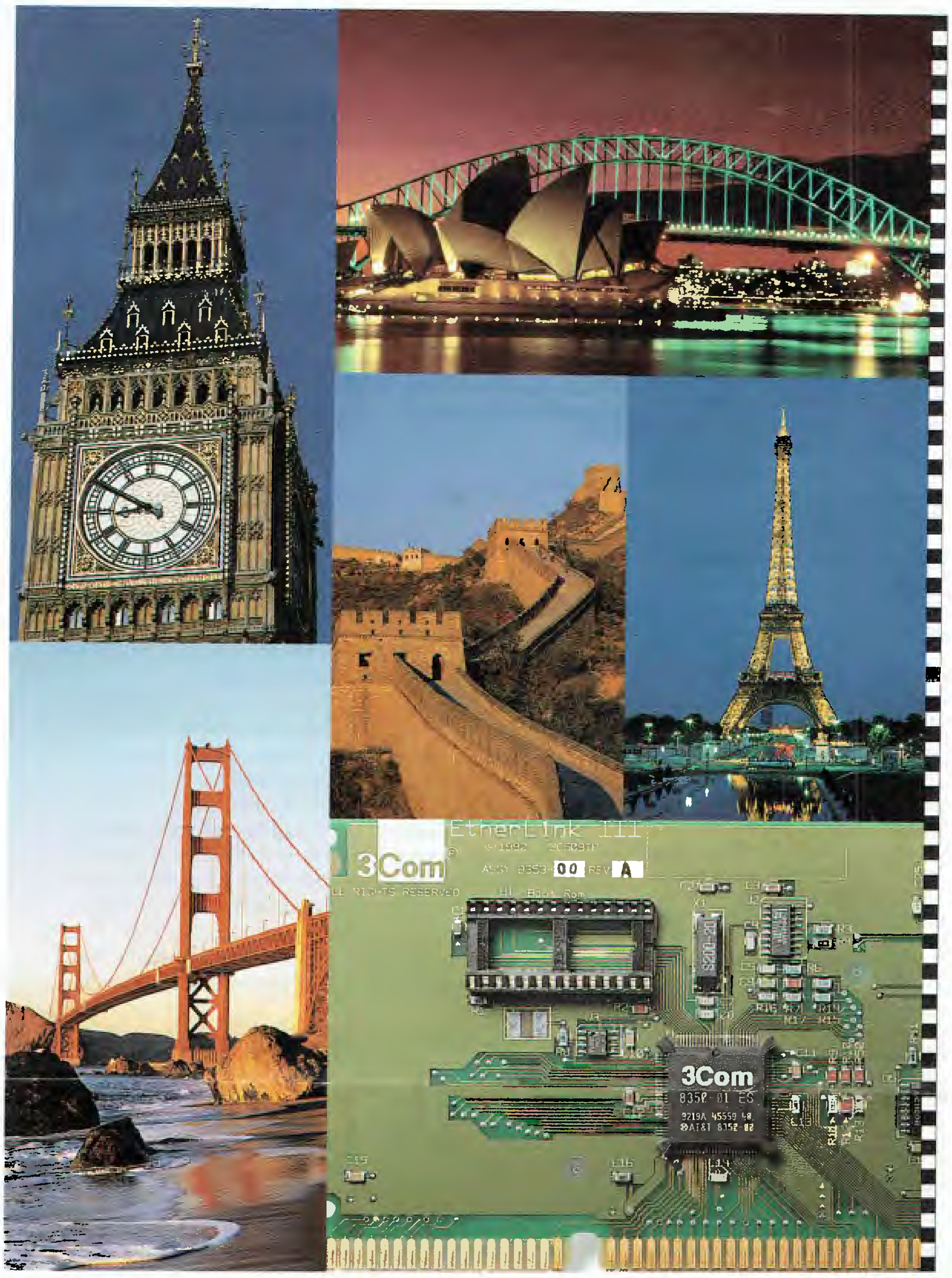

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